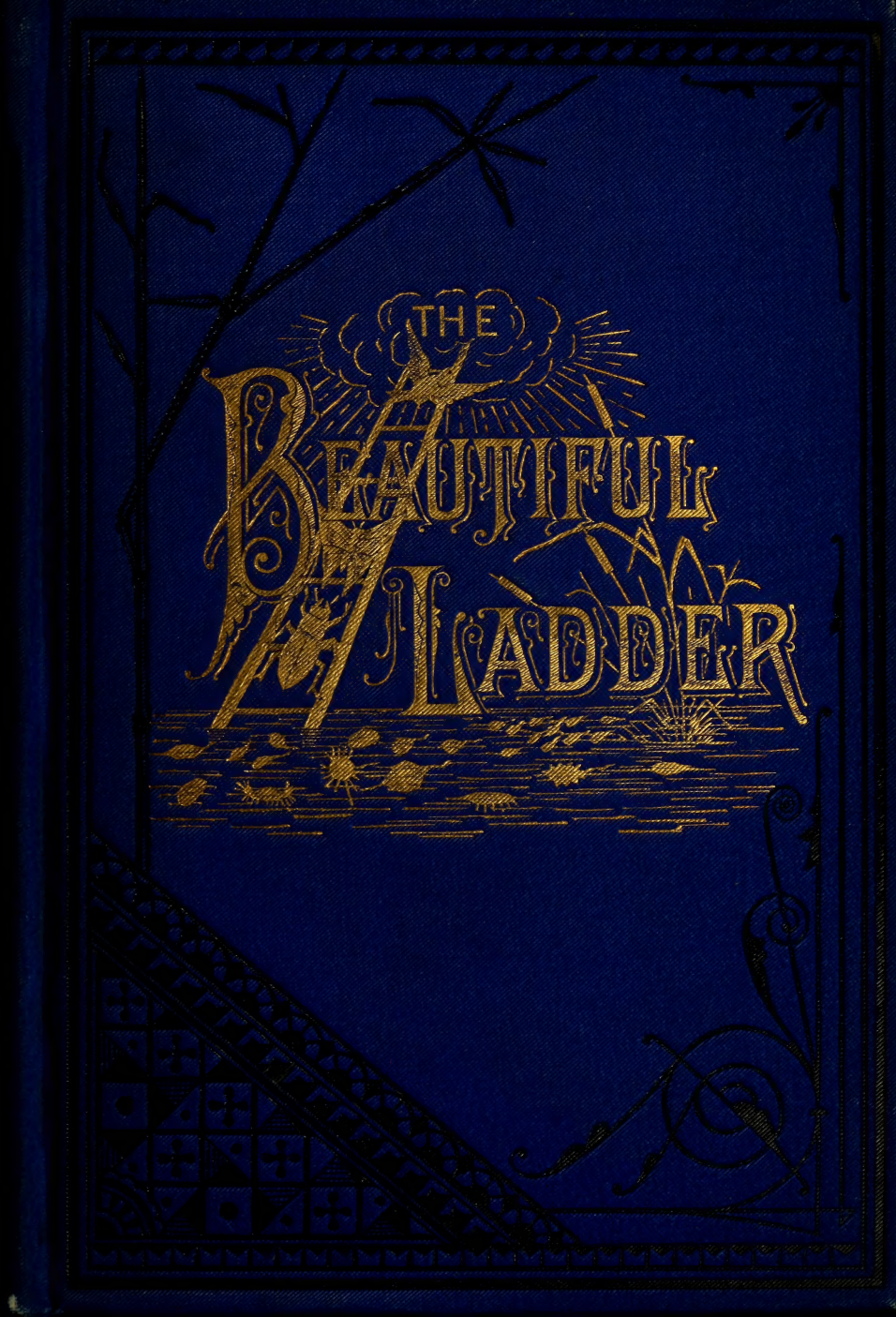
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The Beautiful Ladder;

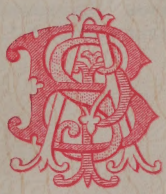
OR,

THE TWO STUDENTS.

BY

Rev. SIDNEY DYER, Ph. D.

AUTHOR OF "BLACK DIAMONDS," "BOYS AND BIRDS," "OCEAN-GARDENS," "ELMDALE LYCEUM," ETC.



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AS BUT A FITTING RECOGNITION OF THE LARGE INDEBTEDNESS, BOTH OF THE AUTHOR AND HIS READERS, FOR HIS CAREFUL EDITORIAL SUPERVISION OF THE SERIES OF BOOKS OF WHICH THIS IS THE EIGHTH,

THIS VOLUME

IS RESPECTFULLY DEDICATED TO

GEO. W. ANDERSON, D.D.,

BY HIS MUCH-OBLIGED FRIEND,

S. DYER.

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THE BEAUTIFUL LADDER.

CHAPTER I.

THE TWO STUDENTS.

"WELL, Charley, one more year in the unraveling of metaphysical webs and the chopping of logic, and then you will pocket your roll of sheepskin and start out on the grand career of life. I congratulate you on your success in reaching the head of your class. It is a great honor to stand at the front of such a lot of bright fellows as you have had to compete with."

This was the cordial salutation of Lewis Rudolph as he first met his intimate friend, Charles Davidson, after the year's examination at college had successfully closed.

"Thank you, Lew," was the ready response. "I've come out better than I expected—better than I deserved, I fear."

"No, no, Charley, that can't be," was the answer; "with such a mind and such perseverance as yours, you deserve all you have gained. Keep on, old fellow, as you have begun, and you will occupy no middle ground, whatever course you may pursue. You have a grand future before you. By the by, have you mapped out a course of life for yourself, as you said you should before your Junior year closed? What is it to be—law, politics, money, or playing gentleman?"

This question seemed to cause a deep shadow to cloud the brow of young Davidson, and it was some moments before he responded; when he did, it was in tones that indicated the seriousness of his statements:

"Perhaps I should say that I have, Lew, for I have come to the settled conviction that there is not enough depending on my poor existence to make it worthy of much serious reflection."

"Why, Charley Davidson," said his friend, "you astonish me! You are the last man of my acquaintance whom I should have expected to find in a fit of the doleful dumps. Few young fellows have such a chance to make their way in the world. You have wealth enough to re-

move all necessity to toil or danger of want, and also to enable you to gratify your tastes for travel or society. What has come over you, old fellow, to make you look so gloomy with such bright prospects before you? I thought it was your intention, as soon as you graduated, to travel for a few years for further study and observation of the world, and then settle down to a profession?"

"Yes," was the reply, "that was my half-formed purpose when I entered upon the last year's study, and I have not entirely given up the idea, though I have recently thought of making quite a change in my route."

"Ah, and which way now?" was the inquiry of young Rudolph. "Are you going to outdo Captain Kane by getting astride of the North Pole, or put Stanley into the shade by laying out Central Africa into townships?"

"No, Lew," was the sober answer, "I do not mean to aim at notoriety, as I have rather in mind to seek some nook or corner of the Rocky Mountains, where I can get as far from men and the active world as possible, and cultivate the fellowship of grizzly bears and buffaloes. That seems to promise more of

happiness than any other course that is open to me just now."

"Well, well, Charley! you have got it bad," said Rudolph. "On what did they feed you last term? Indigo and salt pork? Why, man, you have the bluest fit of dyspeptic hypochrondria that I have seen in many a long day. Rouse up and shake off the spectre, or *blue mass* won't save you."

"I may be dyspeptic, Lew," was the reply, "a little crazy, or something worse, but that I am downright serious is most certain. I would not give a dry fig for life; it has nothing to promise worthy of the pain and fret of attainment:

> 'It is to live and wish that I were not,
> To feel the ills of life, and then to lie
> In drear oblivion in the grave, and rot.'

To live just to amass wealth is a contemptible existence; the more so, as all your faults and weaknesses are sure to be dragged forth to public scorn by the quarrels of your heirs. You know that several cases of late have occurred in which millionaires and railroad kings have had their memories blackened in that way when

they were hardly cold in their graves. Better to have died unknown and poor than to have toiled and hoarded through a long life only to be finally embalmed in scandal. I should be afraid to die worth more than enough to bury me, lest it should be the occasion of soiling my name when I am dead."

"Well, Charley," was the reply, "the instances you mention are too frequent; but that might have been the fault of the heirs. It should be remembered that those who accumulated the wealth did some noble things, which should entitle them to a more respectful remembrance."

"With a few rare exceptions I cannot see it in that light," said Davidson. "True, they gave away some large sums. But the measures used in accumulating; the 'corners' made in stocks, railroad-shares, and wheat,—showed the true bent and purpose of their lives. A few ostentatious charities could not hide all this from the eyes of the world, even though their greedy heirs had not torn away the thin veil which had been used for concealment. I would rather be a Robinson Crusoe and share my hut and scanty morsel with my man Friday than be the owner

of all the ships and railroads ever built, if their possession would expose my memory to be dragged forth to such public contempt."

"Well, Charley," said Lewis, "it must be confessed that a life such as you have described must appear loathsome to a noble mind, but that is the abuse of wealth. You must remember that there are not a few bright exceptions to offset the many instances of fraud and selfishness. Consider the many noble monuments of consecrated wealth in the shape of colleges, hospitals, and other institutions of public charity!"

"No, Lew, I have not forgotten that there are a few men whose names the world will not willingly let die, but the precious catalogue is a very brief one indeed when motives and actions are closely scanned. Not every one, however, who has built a college or an institution of charity by *will* deserves to be placed in the rank of the world's benefactors. When passing some of these monuments of so-called generosity, I have been led to scan carefully the active lives of the legators. It seems to me that the last act of their lives is the most sordid and contemptible. So long as they were able they clutched and hoarded, made 'corners,' and took advantage of

the pressing needs of others in order to secure unlawful gains. Their manner of accumulation having been such that a true sense of honor had been outraged, and their personal generosity too scanty to awaken any lasting gratitude, they could only hope to linger a while in public thought by some plan that would carry the deception beyond the period of their own sordid lives. So, when they could clutch their gold no longer, they beguiled posterity into an undeserved remembrance by erecting some monument of stone, thereby keeping alive a name that would otherwise have gone into just oblivion. These instances are so numerous that I am afraid to make trial of my poor weak nature, lest I should add another to the ignoble catalogue. No, no, Lew; that question is fully settled: I would rather be a poor hod-carrier or a wandering trapper of the Plains than give my life to mere money-making. Getting wealth seems to be a passion that feeds on its own success—more requires more. Having already enough for all real wants, and a little to spare, I shall be no seeker after filthy lucre; so we may drop that subject."

"All right, Charley," answered his friend. "I

will not try to unsettle your determination, for I have rather suspected that you would not take kindly to the plod-and-traffic line. But you must remember that there are other things to be gained besides money. The good Book says that the merchandise of wisdom is better than silver or gold, and more precious than rubies. Turn philosopher, man, and make a name for yourself. You have already made such a grand start that success is almost certain. Come, now, here is a line worthy of your ambition, in which your morbid philosophy will not serve as an excuse."

"Oh yes," was the reply, "there was a time when the best minds were consecrated to noble thoughts and ends; but, dear me! I fear that golden day is past. The purposes of some of the scientists seem to be more detestable than those of the devotees of Mammon. The Mammonites only would cheat you of your cash; but these scientists are striving with all their might to rob the universe of a God, and man of his soul and his immortality. I am no practical believer in systems of theology, nor have I fully accepted the Bible as an inspired book, but paganism never concocted so vile a

system, nor burdened the heart of man with so dark a despair, as will result if the ends of some of the most distinguished scientists are attained. Putting aside the more outspoken and daring French and German materialists, for what conclusion do some of the English scientists reason? Nor do their weak echoes on this side of the water invite to a more promising consummation. Their success will break up all the foundations of human faith and hope. Life will be but a horrid dream, and death an eternal sleep. Alas! for man's destiny if these are the verities which Science is commissioned to establish. Brightly as her robes shine, she must excuse me if I refuse to follow if such be her leading.

"If I had the gifts which would warrant an effort in the more general fields of literature, I am too great a coward to endure the rasping criticism through which I must pass before I could hope to reach any prominence or usefulness as an author.

"So, you see, my sage adviser, that I am cut off from all hope and ambition in these directions, and, I might add, in all others, as matters now stand. Indeed, I have about concluded

that it will be a useless waste of time to spend another year at college, and I am seriously debating the propriety of completing my course. As I now view matters, it seems that in my case the old proverb would have a new illustration: 'He that increaseth knowledge increaseth sorrow.' I already know too much to share the contentment of the clown, and there is too thick a mist enveloping the future to excite further prying into its mysteries, unless I can find a better guidance than I have yet followed."

"Well, I declare, Charley," was the response, "you have got the 'dolefuls' bad! I see there is no use in trying to argue you into sanity. But, my boy, there is one chance left for you yet, and that you cannot gainsay."

"I am glad to hear it," was Davidson's answer. "In which direction does this land of promise lie? I will at once take staff in hand and seek rest for my wearied soul, even though the sea and the desert must be passed through to find it."

"Everybody, Charley," said his friend, "gives you credit for a warm, generous, social nature, and you know that you are the special pet of

the ladies. Make one of them supremely happy; get married, and make a man of yourself by showing that you are essential to the well-being of others."

"Oh dear! oh dear!" was the response, with a long-drawn emphasis. "If that is my only remaining chance for happiness, the sooner I take to a hermit's cave in the mountains the better. Thank you; I would

> 'Rather bear those ills I have,
> Than fly to others that I know not of.'

There are, no doubt, many happy homes, but I must seriously question whether I am gifted with the qualities necessary to add another to the blessed few. Doubting whether I can make a woman happy as a wife, I would rather remain single than take the venture."

"Well, Charley, I've exhausted my logic," was Rudolph's rejoinder. "So I give it up. If you will go to the Rocky Mountains or to the dogs, why, you'll just have to go ahead, for aught I can do or say. But, see here, old fellow: before you hide yourself in some waste howling wilderness and turn savage, come with me and have one more taste of the delights of

civilization. I am going to call on my classmate, Milton Dean, at Willow Brook; and if there is on earth a family whose beautiful social life will bring back suggestions of the unblighted Eden, that bright spot is the home of Doctor Dean."

"Ah yes, Lew," replied Davidson. "I've heard that there is some attraction in that direction for you. But beware; remember that it was in Eden where Mother Eve led man into his first trouble, and it is not to be supposed that one of her daughters, a little on the outside of the sacred enclosure, will be wiser or stronger than she was within."

"A truce to your banter, Charley," was the reply. "Come with me, and you will find not only a true woman in Ella Dean, but a charm surrounding the whole family, that may draw you in that direction more than once, especially as there is another 'wingless angel' there who is bright enough to ensnare almost any poor mortal. But seriously, Charley, an evening with the Deans is most delightful. It is a scene of refinement and content, where conversation does not degenerate into insipidity or scandal, or tediousness compel a resort to friv-

olous amusements to pass away the time. Doctor Dean has been a diligent student, and from his rich stores of observation presents charming pictures of nature and society. Come and put yourself once within the influence of that delightful circle, and if you do not wish to repeat the experience, I will not urge you to another trial."

"I could venture to make the call," said Davidson, "if it could be only a social visit; but I hear that the Deans are awfully pious, and you know that I hate cant. If Doctor Dean should begin to bore me with his preaching, I might do something unmannerly, and that I should regret for your sake. It would be better for me not to go; it will be safer."

"Nonsense, Charley!" said Lewis; "I will take all the blame for what may happen. Doctor Dean has too much sense to offend his visitors by intruding improper or untimely subjects. Besides, he clothes every topic with such attractiveness that one is charmed before he has time to shape arguments against his conclusions."

"Go ahead, then," was the answer, "make the appointment; and if they will not regard me as

an intruder, I will venture to look into your 'Paradise Regained.'"

"All right!" was the reply, "and if you do not bless me for introducing such a world-sick wanderer into that blissful retreat, you will be a marked specimen of total depravity; and so good-bye."

CHAPTER II.

A SERIOUS DISCUSSION.

AN introduction to the Deans will not be necessary to those readers who have followed them in their rambles around Willow Brook, searching out the "Wonders of Familiar Objects;" shared in their delving for the treasures hidden in the mines of "Black Diamonds," and more marvellous investigations among the "Ocean Gardens and Palaces." To those who have not thus enjoyed their acquaintance and fellowship a few words may be necessary in order to a proper apprehension of the interviews which may be had in future pages.

The home of the Deans was comparatively humble, being a small, neatly-kept cottage embowered by trees, shrubbery, and vines.

The large number of well-arranged bird-cages distributed through the grounds, and the rustic seats placed in their immediate vicinity, showed

the good terms maintained with the numerous feathered songsters, whose "wood-notes wild" seemed to be their spontaneous songs of gratitude for the kindly care bestowed upon them. The whole aspect of the place was such as to show that it was under the care of those who delighted in the beautiful, and that it was not an attempt to make nature a vehicle for a display of their own vanity. It was a place for study as well as for gratification, a retreat for meditation as well as for indulgence.

Within, the cottage exhibited a fitting counterpart to the exterior surroundings. Nothing was rich or costly, but the genius of neatness and attraction seemed to preside there with an undisturbed sway. The home was indeed "swept and garnished," yet there were no unsightly reminiscences, indicating that "unclean spirits" had ever gone thence "seeking rest;" but there was something pervading the very atmosphere which suggested that any attempt to introduce any such disreputable visitors would be an unsafe undertaking. Truly it might be said of Willow Brook Cottage, that

> "If there's peace to be found in the world,
> The heart that is humble might look for it here."

Whatever, however, might have been the pleasing impressions made by the externals of this rustic dwelling-place, no one could remain long in free intercourse with its inmates without losing sight of these attractions in the superior charms of the social and intellectual life enjoyed. In the contentment realized by a moderate supply for real wants, the absence of luxuries was not felt or noticed; and if afflictions and pressing cares ever intruded into that cheerful circle, they were borne with a fortitude and resignation which prevented them from becoming obtrusive and exciting a painful sympathy. There was no need to invent means for killing time, as every moment brought some useful and instructive employment. A well-ordered Christian family, they were in the true enjoyment of the life that now is, with the full expectation of the brighter realities of that which is to come; and were using the opportunities of the present so that they might go to their treasures, and not from them, when the great change should come.

Their religion, with the dwellers in Willow Brook Cottage, was not a sombre, joy-crushing system, but a vital force, which gave zest and

illumination to every phase of life and outgoing of mind and heart. It was the celestial ladder, with foot resting on the earth, and rising upward, with an ever-growing brightness, until its leaning top touched the throne of infinite glory and goodness.

Doctor Dean possessed the usual amount of professional scholarship, which is, from the nature of the case, more or less technical—a "valley of dry bones" if the possessor does not give life and clothing to his acquirements by fresh and original studies. By a judicious selection of topics and a careful use of time, Doctor Dean had become unusually enriched in the most important departments of natural history and science, and had so trained his children that they largely shared in his enthusiasm and acquisitions. Their study in these departments had ceased to be a task, and had become a recreation; and, without being pedantic or offensive, they possessed, in a wonderful degree, the faculty of infusing something of their enthusiasm into such of their visitors as were capable of entering into their studies and pursuits.

Milton, the son, had grown in body and mind since he was found gathering wisdom on the sea-

shore under the apt instructions of Old Ben the diver. He was, indeed, nearly out of his teens, and in his Senior year in college. In his course of study he had shown the happy results of his careful home-training, by keeping well in advance of his class in all departments of philosophy and natural history, and had received the flattering offer of a position as tutor in these departments of study after his graduation.

The sedate Ella was, if possible, more enthusiastic in her love of the true and the beautiful, spending much of her time in roaming the fields and woods, culling wild flowers and drinking in the bird melodies that filled them with a gush of song. With great ardor she had entered into her father's studies, and, while evincing nothing of the blue-stocking, could converse with great interest on most subjects of natural history.

Minnie, the younger daughter, while still somewhat whimsical, had gained more solidity of character, though the keenness of her wit had not been blunted nor her love of the grotesque subdued. She was still as apt to see strongly the ridiculous aspects of life, and as free to comment upon them, and, as formerly, the first to regret and weep over any indiscretions.

As for Mrs. Dean, she was the fitting centre of the affections, order, and attractiveness of such a delightful Christian home, receiving the blessings of her children, the praises of her husband, and the ardent gratitude of her neighbors for her many deeds of kindness and charity.

With this introduction the reader will be somewhat prepared to understand the assurance given by young Davidson, that his friends would thank him for introducing him to the enjoyments of such a happy circle; and, it is hoped, will cherish a stronger desire for further intercourse.

It has been beautifully said, that "Heaven lies about us in our infancy;" but, alas! how few are so enlightened as to catch even partial glimpses of the celestial radiance! nay, how many are wholly unconscious of the divine illumination! They can never get the dust of the earth sufficiently out of their eyes to see anything higher or more noble; they grovel right on, when they might mount up; they keep the head on the stone, when the ardent feet might be on the heaven-reaching ladder, the former almost as insensible as the unyielding pillow on which it rests.

It is the aim of this volume to inspire its readers with a desire to follow the angelic guidance which ever waits to convey the devout climber to the glory of the opening heavens and the perfections of infinite bliss.

After one or two brief interviews which the two young friends had enjoyed at Willow Brook, Doctor Dean gained some insight into their characters and peculiar modes of thought. He saw that they had abilities, and were likely to become men of more than ordinary influence, and felt an unusual sense of obligation to try and lead them into the right ways of knowledge and action; hence he cordially invited them to make frequent calls at the parsonage during their vacation, especially soliciting their participation in certain evenings given to social discussions of natural science and other kindred topics.

After receiving this invitation the young men returned to their own room, and young Rudolph opened the conversation by saying—

"Well, Charley, you seemed to enjoy yourself hugely this evening, notwithstanding the day opened with a rather blue morning. It was evident that you were interested in Miss Minnie to-night, judging from the way you chattered over

there in the corner, leaving me to play the dignified with the old folks. Perhaps, if you do not use some expedition in seeking the companionship of bears and buffaloes, you may find yourself tethered, and your wanderings restricted to the regions about Willow Brook."

"Don't let yourself be alarmed," was the reply, "though, to tell the truth, I did spend a delightful evening, and found Miss Minnie Dean charming company. I was fearful that I should find the Misses Dean regular blue-stockings of the straightest order, prim with propriety, and tagging on a moral to every sentence; but they are quite the reverse, and I could almost think that the world has something worth living for could I be persuaded that there are many such green spots in life's wastes. Truly, Lew, I do most heartily thank you for introducing me to such a family."

"I am delighted," was Rudolph's rejoinder, "to hear of your enjoyment, and hope that a few repetitions of such pleasant hours may cure your despondency and give you more cheering views of life."

"Yes, yes, thank you," said Davidson, "but the beginning is too bright to last, I fear. I am

interested for the moment by such agreeable intercourse, so unusual in my experience, but when the end comes the recoil will be likely to push me back into the old convictions of the utter emptiness of life."

"Oh, Charley boy," replied his friend, "that ground has all been gone over, and I thought that you had made better use of your classics than to play the modern Diogenes."

"I know my classics," was the answer, "but they don't help me in determining the practical question, whether it is the part of wisdom to play Stoic or Cynic. At present I am rather disposed to emulate the philosopher in the tub, and show my superior wisdom by getting away from the pale of so-called civilized society."

While young Davidson was thus stating the workings of his mind, his friend's countenance assumed a sober aspect, and in corresponding tones he replied:

"Well, I may as well confess that my experience has been much like yours whenever I have given myself up to sober thinking, but I have generally shaken off the depressing tendency by cherishing the hope that there is something, after all, worth living for, and that by

patient searching I should yet find out the happy secret. There must be some course in life that will make it a blessing and be the promise of something better hereafter; and will it not be the part of wisdom for us both to make an honest effort to find it out before giving up to despair? It seems to me that the Deans have found the true pathway of life, and are in the enjoyment of its happiness. Perhaps before our vacation is over they may render us essential aid in our search for the right way to happiness."

"To all of which," said Davidson, "I will interpose no objection, provided it comes without prompting or cant. In the line of science, I do not see how the happiness you speak of is attainable; and as to religion, the multitudes of superstitions which have distracted and oppressed the world preclude all hope of finding it there."

"I am not so certain of that," was Rudolph's answer. "The fact that all nations have a religion leads us to infer that it is essential to man's nature. It seems to me to be the first rational duty of every one to find out which is the true one, and then most heartily to accept its doctrines and practise its duties. For my-

self, I fear I have been more diligent in studying out the defects of the false than in finding out the principles of the true, and in noting the failures of others rather than in aiming to keep in the right path myself."

"Well, Lew," was the reply, "I see that you were cut out for a black coat and a white necktie, but I fear you have chosen a hard subject for your trial sermon."

"Pardon me, Charley," said Rudolph; "I did not mean to play the preacher. I was only expressing my thoughts, with the hope of saying something that would mitigate your despondency, leaving a cure for other times and abler teachers."

"Ah, thank you kindly," replied his friend, "but I fear the disease is too deeply seated for hopeful medication; and so good-night."

"Good-night," was the rejoinder, "and happy be thy dreams, with brighter skies in the morning!"

CHAPTER III.

A FAMILY COUNCIL.

WHEN the two young friends had taken their leave after an evening spent at the Deans', Milton, addressing his younger sister, said,

"Well, Min, you and Mr. Davidson seemed to have a mutual good time over there in the corner. Pray, will it be divulging any precious secrets if you inform us what subject so interested you. Was it good looks, wit, or wisdom? But why should I ask, for it was the former of course, for that is what you girls are always looking after."

"Thank you, brother," was the reply, "for the very high estimate in which you hold the wit of your sister; but if you are always as wide of the mark as you are now in your guessing, you ought to confine yourself to plain facts. I paid but little attention to the personal appearance of either of your friends, and formed no very high

opinion of the wit or wisdom of one of them. If going to college does not enable young men to talk with more sense and form better conceptions of the purposes of life than Mr. Davidson exhibited to-night, I think the expense of maintaining such institutions quite a useless waste of time and money."

"Then, sister mine, you must have been guilty of a little coquetry, for you seemed much to enjoy your *tête-à-tête*."

"Oh yes," was the answer; "in the way of small talk Mr. Davidson was entertaining enough; but when anything serious or sensible was brought forward, he was excruciatingly dull or quite offensively wanting in reverence. He did not know what he was made for, nor what he was going to do. On the whole, he thought the world a huge mistake, and man as the climax of the failure. As sister Ella is so anxious to engage in missionary work, I think, instead of going to enlighten the heathen on the other side of the globe, it would be better to begin with those much nearer home; and, as a point of beginning, I recommend a certain Senior class in a neighboring college."

"Ah, Min," said the brother, "Charley was

only trying to tease you, for he has one of the best minds in his class, and is of unimpeachable habits."

"I most sincerely pity the rest then, brother," was the answer, "for their stock of knowledge would be a meagre outfit for a 'cheap John.' If he was trying to tease me, he was none the less rude to talk so lightly of sacred things; and if serious, as I am persuaded he was, he was very stupid or wickedly blind.—Why, father, he said he was not sure whether he had any soul or not, or that there is a God or a hereafter. Is not that perfectly awful?"

"It is certainly," replied Mr. Dean, "no very commendable state of mind to be in; but let us hope that Mr. Davidson is not quite so beclouded as you have inferred. It is not uncommon for young and active minds while in a state of formation to pass through such experiences as are now perplexing this young man; and let me say that it is a work worthy of our best efforts to try to remove such baleful notions from a beclouded mind. Perhaps in this good work not only your sister, but all of us, may take an important share. For one, I feel so great an interest, that I shall take special pains to so shape

our conversations when he is present, as to lead him to cherish better views of truth and the great purposes of life. In this worthy effort I shall want all the aid which you can render. Let us convince these young men that the Christian religion does not make long faces and gloomy homes, but the very reverse; and that it can give to conversation and social life a zest and relish surpassing the trivial commonplaces of fashionable society."

"I can bear testimony," said Milton, "that young Davidson is a noble, generous fellow; and I am persuaded, father, that you are correct in your conception of his trouble. He is in a state of mental and moral transition; and if he has the right guidance just now, I hope he will come out all right, and be a man of great influence for good in the world. It will be a great pleasure to me to aid in securing such a happy consummation."

"Well, I'm sure I hope you may be successful, father," added Minnie, "for he certainly needs some one to guide him, else there will be a life squandered, if he does not perpetrate something worse. Why, he said he was about ready to seek fellowship with wild beasts, as

more desirable than any human society he had met with yet."

"Which atrocious remark," replied the brother, "was not very complimentary to you, sister mine, and that perhaps may account for the questionable complexion which you have given to his character."

"It was no great mark of his good-breeding," interposed Ella, "when talking to a lady to make such an invidious remark; but we should have little to do in this world if we should pass by every one lacking in good sense; and so I suppose that Mr. Davidson is entitled to his share of our benevolent sympathies.—But, father, I do not see in what way we can essentially aid in securing the desirable result. It would be indelicate for me and sister to put ourselves forward or assume to be instructors to those who are our superiors in knowledge, even when they are of our own sex, but when the subjects are intelligent young men the impropriety is beyond question."

"True, my daughter," was the reply, "and be assured that I shall ask you to do no equivocal service.

"There are two ways in which character is

moulded, the direct and the unconscious. I will take as my share in our contemplated work the former method, and so shape our conversations and studies, as to lead the minds of our young visitors to clearer and brighter conceptions of the Creator's works and ways. As to the second method, the unconscious influence, let us strive so to entertain them as to make them feel the charms of a social life that is stimulated and controlled by a cheerful, joy-giving Christianity. They need to learn that there is something better and nobler than seeking after mere earthly good, and that the soul is worth more than the body. Let us try to teach them that the subordination of the lower to the higher does not bring gloom and discomfort, but gives the truest and most satisfactory enjoyments.

"To tread in the way of true happiness is a surer guidance than to point it out with the clearest definitions. To manifest in our lives the joys of salvation will better instruct transgressors in the right way than the most lucid exposition of truth. Too often, through a mistaken conception of what constitutes vital godliness, there is an effort to put on a spiritual

straight-jacket, instead of taking off the heavy burdens; to make long faces, instead of joyful countenances; and to key the voice to a perpetual minor, rather than tune it to anthems of holy delight. It has been truly sung that

> 'Religion never was designed
> To make our pleasures less.'

The Christian ought always so to live as to give emphatic attestation to this truthful sentiment. We can see in the case of these young men a strong inducement to try and clothe the principles and duties of Religion so as to prove that all 'her ways are ways of pleasantness, and all her paths are peace.'

"Our own family circle will furnish no inapt instance of the power of proper instruction and the exhibition of a cheerful piety. Instructed by the word of God, we have endeavored to teach that religion is designed and adapted to make its subjects more cheerful and happy, and to live so that our lives should prove the doctrine true. That you have all been brought to an experimental trust in the blessed Saviour is the happy consummation sought.

"But we have, perhaps, discussed this ques-

tion sufficiently to prepare us for our proposed effort in behalf of our young friends. We will try to make further practical testing of the same means in order, by the help of God, to do them good, and lead them to know Christ and find their joy in his service."

CHAPTER IV.

AN OLD SCENE, BUT NEW EYES.

"WELL, boys," inquired Milton Dean of his two young friends, on their return from a day's fishing in the little lake bordered by a dismal swamp, "what kind of sport did you find? Did you fill your baskets with trout and bullfrogs?"

"Oh, we had a jolly good time, of course," replied Rudolph. "We caught two little dace, one trout that would weigh an—ounce, and a good ducking: glorious achievement! In trying to make a short cut through the swamp we boxed the compass, and wandered round until we found ourselves on the very borders of the Slough of Despond, into which we plunged most bravely, and wallowed and floundered until the very owls hooted at us in derision. You ought to have heard the bullfrogs as they shouted, 'Charley! Charley! Rudolph! Rudolph!' until

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the whole swamp was filled with their exultations at our predicament."

"Delightful, wasn't it, Milton?" added Davidson; "and what an apt instance it furnishes us of the ways of the world! In seeking its promised pleasures we generally get more smutches and pains than true enjoyments. And, by the by, Milton," he continued, "I think the dismal scene of stagnation, death, and discord through which we passed may stand as a very plausible argument against your father's favorite theory, that all things show the clear tracings of supernatural design and skill, in beauty of forms and special adaptations."

"Yes," replied Milton, "that is my father's theory; and it seems to me that it must be held by every intelligent being whose eyes are open; and it may, perhaps, seem a little singular that the very scene through which you had such an unpropitious ramble, and which you instance as disproving the doctrine, my father has used as an apt illustration of its truth."

"Well, I should say, emphatically," replied Davidson, "that it would require a wonderful amount of sophistry and special pleading to frame an argument from such premises. It

would be interesting, at least, if not instructive, to listen to such an array of inapt instances. From the practical experience which we had in threading the dark and slimy fens of that quaking slough it will require a mighty array of logic to brush the mud from our garments and get its stench out of our nostrils, and transform it into a paradise of wisdom and beauty."

"Yet it has been done in my case, at least," said Milton; "and my experience gives the hope that even one as sceptical as you are may be led to cherish a different view of that which is now so repulsive. Nature in its most unpromising external aspects ever conceals gems of creative beauty, which quickened and illumined eyes will search out, and the delighted soul enjoy. I will ask my father to repeat his sketch of the dismal swamp as connected with his own studies and experience, for it has had a marked influence on his mental and moral training. It was the subject of one of our evening conversations, and was to us an exceedingly interesting discussion."

Both of the young men expressed a strong desire to listen to this rehearsal, feeling sure that if it did not bring conviction as to the truth

of the theory, it would at least afford a pleasant evening's entertainment. It was therefore arranged that, if Mr. Dean would consent, an evening should be spent at the cottage in listening to this recital, and the young friends separated to await the event.

When the appointed evening arrived, Doctor Dean gave a cordial welcome to the young students, and most cheerfully acceded to their request. He began by saying:

"In my early years I spent many hours in rambles around the lake and marsh which you visited the other day. It has but a small outlet, and consequently is in a state of almost total stagnation during the hotter seasons of the year. To make the prospect still more desolate and repelling, an extensive marsh and peat-bog stretches away, filling the whole range of vision. The borders of the bog and lake then, as now, were fringed with thick clumps of alders, white birch, larches, vines, and other rank growths of such localities. Reeds and spatterdocks abounded everywhere, generally fringing some dread shaking bogs, where more than one tragedy has occurred which make them objects of terror to the juvenile gatherers of the

native cranberries which grow abundantly on their borders.

"It was the paradise of the whole generation of frogs, from the little piping tenor, whose rapid notes so nearly resemble the clatter of the watchman's rattle, to the monster bullfrog, whose sonorous bass boomed across march and mere:

> 'The fenny frogs, with croakings hoarse and deep,
> And gnats, loud buzzing, drive away our sleep.'

"Clouds of Canadian geese or ducks hovered over the place in the spring and fall, and made the waters dark as they tarried to feed during their annual migrations. To add to the weird music, they filled the night with their garrulous complainings, and met with a dismal response from numberless owls, who hovered there for the rich banqueting furnished by the frogs and young ducklings. It was a scene of unearthly din, and the visible scenic revelations were in harmonious keeping with the uncouth minstrelsy of the place. At times swarms of fire-flies were so thick as fairly to illuminate the dark landscape, often seemingly led, like an army of fire-fiends, by some vagrant *Will-o'-the-*

wisp, or, as called more generally, the *Jack-o'-lantern.* But words can give you but a faint idea of that grotesque landscape, and so they need not be multiplied; only let the shading be put in most freely and sombrely, and the picture will not be overdrawn.

"Trained under the influence of a neighborhood mostly settled by descendants from that section of Massachusetts which felt the blight of the Salem witchcraft, it was natural that the young and susceptible imagination should be misdirected, and behold in such surroundings a picture of Nature's most horrid painting, where the background would be filled with

'Gorgons and chimeras dire.'

"Oh, how often, when belated at a neighbor's house, were the borders of that dread landscape trodden by flying feet as the truant sped homeward, not daring to look behind, lest some ghost or hobgoblin should be seen in full chase!

"Tam O'Shanter, when his gray mare, Meg, carried him, by that last desperate leap, safely past the keystone of the Brig of Ayr, was not more exultant in his sense of safety than was

the flying truant when he had once safely passed that scene of youthful terrors, and the latch-string of the humble home was pulled with a desperate jerk, and the door once more snugly closed behind him.

"The memory of that landscape was a dark one. For years it was the image which the young mind associated with the dark abode of the lost.

"Years of absence and study had corrected and modified many early mistakes and misconceptions, and had opened up new scenes of beauty and sources of pleasure where only barrenness seemed at first to abound; but still the dark imagery of that lake of desolation remained clear and distinct. After wandering for a quarter of a century amid other scenes, and gaining a somewhat extensive knowledge of the wonder-treasures of the world, the home of childhood was again revisited. When the steps were first turned in that direction, there hung the dark scene of the dismal swamp and stagnant stretch of water, as vivid as ever. Standing at last on the familiar old spot, and looking out on a scene but little changed in its outlines, the weird enchantment of other days was broken. The

dark picture that was seen could no longer hide the wonders and glory of the *invisible*. They were clear to the mind, and their brightness put out of view the dark earthliness which concealed them. Every object of former dread was transformed into a subject of pleasing study or transfigured into a scene of wonder and beauty. Frog and fly, bird and bat, reeds and rushes, bog and mere, and even the dark masses of slimy algæ, known to childhood as the disgusting 'frog-spittle,' were found on a little inspection to be full of beauty and interest. Alas, what perversions and pains are caused by ignorance and misapprehension! Nothing is common or unclean which God has made. It is our own blindness or superstition that fails to see in everything about us the work of the divine hand.

"We will turn to the very spot which once seemed the most fitting emblem of Tophet, and more than a blank in nature—a hideous blot on its surface. Here, or in any similar scene, the wonder-working power of God may be readily discovered. Everywhere will be found lingerings of that Paradise which God planted and made pleasant to the eye; and in every new

object there will be found on careful examination a foretaste and glimpse of the brighter home above.

"To be successful in our investigation, we must go to it with acutely quickened senses and a perseverance that will overcome all difficulties. These will bring many of the hidden secrets and beauties to light. But we must not stop with such revelations as the unaided senses can give us, though these will be rich enough to repay all the diligence and care of the searching. One of the brightest achievements of Science is her invention of instruments, by means of which we can penetrate deeply into the secrets of Nature, and reach such remote distances as not only to astonish us at what is revealed, but to cause us to stand in awe before the instrumentality which has brought the wonder under our inspection.

"As we go to disenchant scenes of youthful horror, and turn them into God's treasure-houses of wisdom and beauty, we must take our microscope with us. With the aid of this wonderful glass, where the unaided vision beholds only loathsomeness and deformity, marvellous transformations will take place, and the

mind will revel in the discoveries of beauty that we shall make.

"But our great object is not merely to discover beauties for the gratification of our taste. There is a higher aim and a greater good for which we should seek. Whatever we may select for our examination, we should ask these questions in regard to it: 'What is it? How is it made? For what is it made? Who is the maker?' Thus the study of Nature would gratify our intellect, by giving us clear and distinct knowledge of the things that are about us; it would also gratify our taste, by opening to our view beauties of form and of adaptation, perhaps new, strange, wonderful; but, above and beyond all this, the study, if properly conducted, would lead us to look through Nature up to Nature's God, making known to us more and more fully, as we advance, his wisdom and power and goodness and glory, and leading us to desire as our highest happiness, our greatest good, to be fashioned into his image, conformed to his will, fitted for his presence, made the everlasting sharers of his glory and joy. Happy the man who finds the study of Nature a beautiful ladder by which he climbs from clod to clouds, from

clouds to God; and who thus becomes so truly enlightened by the study, that the incense of his altar is a grateful tribute to the adorable Creator, and not a profane offering to the creature or a pagan sacrifice to science falsely so-called.

"Let us not hesitate to follow the present leading because we begin our search for the wonderful and beautiful on the borders of a stagnant pond. Filled, apparently, only with objects of loathing, it seems to the unsealed eyes as it did to the distorted youthful imagination, only a repository of the earth's excrescences to gender deformity and death. Unsightly masses of mud and slime, and rank growths, filled with crawling worms, water-beetles, and disgusting amphibia, surely this is not the place for discovering peculiar waymarks of wisdom and loveliness. But let us look with a careful inspection,

'Not loathing, but lovingly,'

and the scales will drop from our vision, and the revelation will be so rich that we shall linger with ever-growing delight around the borders of such an enchanted world.

"What a field is here opened for the exercise of every pious emotion! and how irresistibly do

such contemplations as these awaken the sensibility of the soul! Here is infinite power, to impress you with awe—here is infinite wisdom, to fill you with admiration — here is infinite goodness, to call forth your gratitude and love. The correspondence between these great objects and the affections of the human heart is established by Nature itself; and they need only to be placed before us that every religious feeling may be excited.

"Having thus led you to the borders of the disenchanted lake, in our next interview I will try and show how the scales were removed from my eyes. With a most fervent hope that our interviews may be blest to your good, in brighter views of God's handiwork and gracious provisions for our happiness, I most cordially invite you to my social circle, and to such instructions as I may be enabled to give."

CHAPTER V.

THE FOOT ON THE LOWEST ROUND.

DOCTOR DEAN desired to make his effort to place the feet of his young pupils on the first round of Nature's beautiful ladder both pleasant and successful; therefore, in connection with his children, he planned a visit and a picnic dinner on the borders of the pond where they had met with such a dismal experience, which was but the repetition of his own early misinterpretation of Nature. Taking his microscope and other requisites, the party repaired to the scene of investigation. On their way Rudolph remarked to his friend,

"Well, Charley, say what you may of Doctor Dean's arguments, you will not deny that his methods are a little more agreeable than dull class-rooms and prosy lectures. We did not anticipate having a pleasant picnic with the girls."

"That is true," was the response, "and I can take a pretty thick slice of morality if it is only sandwiched as delightfully as to-day's homily is likely to be. But I suspect that this nice arrangement indicates a conscious weakness in the logic of the lesson, and the doctor will effect a cunning retreat by diverting attention with cold chicken and feminine sweetness."

"That may be true," was Rudolph's reply, "but let us at least give him credit for his benevolence in making provision against all chances of passing a dull day. We shall be taught one practical lesson, at any rate—that when we are fated to look upon that which is repellant we can mitigate our disgust by carrying with us something that will serve to modify its unpleasant surroundings. A cheerful heart and good company have brightened many a darker landscape than will meet our eyes to-day.—But a truce, Charley; the girls will think us boors if we spend all our sweetness on ourselves. So if you will help Minnie over the bogs, I will see that Ella does not fall into the Slough of Despond."

The day was one of those still and dreamy ones when the whole landscape seems slumber-

ing in a kind of blissful drowsiness. The rays of the sun were glinting with a mellow radiance over the surface of the water and the soft plots of peat-bogs, or casting golden pencils of quivering light as they rifted through the branches of larch and willow. From the abundant green masses of spatterdocks and tangled algæ which thickened the shallow waters, an unceasing effervescence of oxygen-bubbles flashed to the surface, sparkling like a fountain of shooting pearls. To the eye and touch of the unobserving, these collections were suggestive only of miasma and death, and the first thought would be to turn away and shut out the dreary picture, and seek to escape the danger of breathing its infected atmosphere. But the hand of him "who doeth all things well" fashioned these dark forms of growth, and gave them a place and a purpose in the economy of Nature, and doubtless a careful inspection will bring out clear traces of the divine handiwork. Let no one, therefore, be driven from an investigation by the repulsive outward appearance, or by any suspicion of lurking danger. A true love of Nature, by arousing an increase of vitality, often proves a shield to guard us from harm.

"We take up," began Doctor Dean, "a handful of these slimy growths, and the first strong impulse is to throw them back into the water with disgust; but let us resist this rash impulse, and there will be a rich reward for our self-control. A little inspection of the mass in hand will reveal, even to the unaided vision, wonderful outlines of beauty and curious forms of adaptation, begetting a strong desire to enjoy the richer treasures which we are sure lie hidden among these limp filaments. We hold a tangled mass of *confervoid algæ*. Dissatisfied with the partial revelation to the natural eye, we adjust a minute portion of the collection under the microscope. Marvellous transformation! The repulsive network of slimy vegetation arrests our attention by unexpected and brilliant forms of beauty, and we start back to examine our adjustment, lest we have mistaken the object placed under our instrument; but no, there is no misplacement before our lens, only a vast misconception of Nature's handiwork has been suddenly wrenched from the mind, and a place given to a new birth of thought. And now, while glowing with this delightful impulse, let us give careful inspection to the wonder-reveal-

ing mass in our hands, and we shall no longer turn away from the stagnant pond or fenny bog as only homes where the

'Frogs have sung their old songs in the mud,'

or as dread reservoirs, distilling fevers, poison, and death."

Though somewhat familiar with the wonder-revealing power of the microscope, the young observers were nevertheless deeply interested by this new and unexpected exhibition of its transforming potency. The slimy repulsiveness had vanished as they gazed at the dark fronds through the instrument, and *Oscillatoriæ* and *Spirogyræ* were glowing in their golden and emerald splendors.

When satisfied with gazing at the exquisite beauty of forms presented, Doctor Dean quickened their attention by referring to the singular movements observed in some of these vegetable fibres.

"In many of these fronds of algæ," said he, "there is seen a series of marvellous transformations, which approach wonderfully near the instincts of animal life, and which for a time left the closest observers in doubt where they

ought to class them—whether as animal or vegetable, or whether as a link between the two orders.

"Mark those now under our instrument. The motions are generally slow, but sufficiently distinct to be characterized. They now stretch out into an emerald wand well befitting a queenly hand, and anon break up into gems that would add new lustre to her diadem. These are but different stages of the progressive plant life, and are so singular as at once to raise the low order into the plane where the mind is held with a bewildered astonishment. That mysterious Power which pervades everything has quickened even these low beginnings of vegetable life with authority to make known his glory and beneficence, as they push forward to fill some great purpose in creative goodness. In our subsequent researches we shall learn something of the benevolence which included these obscure agencies in the grand scale of causes, as we shall find these slimy masses of pond vegetation feeding an animal life more minute than themselves, and this in turn ministering to a higher, until we find the benevolent purpose completed in that ever-open hand whose

infinite fulness 'satisfieth the desire of every living thing.'

"If we pass from fresh to salt water vegetation, a more wonderful array of plant life is brought under notice, stretching from the most minute growths to the gigantic sea-weeds, many hundreds of feet in length, and of forms and colors of most exquisite shapings and shades, dazzling the beholder. But so many things await our attention that we must pass them, only pausing to mention that they were the first-born of the vegetable world, and are replete with marks of divine skill and adornment—a study for a life, and a rich compensation for all the time and care given to their investigation.

"Wherever a watery influence is found, the green covering of rocks, old logs, shells, and whatever else lies submerged or damp, there flourishes in luxuriance and beauty some minute order of confervoid life. Often marvellous in structure and modes of propagation, with endowments of surpassing grace and brilliancy, these orders may well hold the admiring attention of the curious and wonder-loving, notwithstanding their uninviting localities.

"The devout investigator can clearly trace the hand of the all-wise and beneficent One in all these humble and obscure forms of life. To such quickened minds, the purpose which these watery resources subserve is not hard to comprehend. In every frond of algæ, however minute, there will be noticed, as will be mentioned in the sequel, countless myriads of infusorial life feeding on these rich submerged pastures. These invisible forms of life are thus fed and fattened for others in a higher series, and these in turn for orders still more perfect, until, in the ascending scale, man becomes the rich inheritor of the wealth accumulated by so many plant and animal industries.

"Nor must the purpose which submerged vegetation serves as a great conservator of health be passed unnoticed. Every pond and other body of still water would undoubtedly breed only contagion and death if its fell accumulations were not in some way counteracted. And how beneficently all this is provided for by these obscure forms of vegetation! It is a fact, familiar to all, that a body of water standing undisturbed for any considerable length of time becomes stagnant and unhealthy; but every one

acquainted with the management of an aquarium has learned the interesting fact that a few water-growing plants will preserve the same water in a vital condition for many months. This interesting discovery was but finding out one of the great secrets of Nature, which explained one of the purposes of the rank vegetable growths of all bodies of water. The teeming animal life and vast and rapid decay of aqueous plants soon rob the waters of all their vital stores of oxygen; and if thus left, death would brood over every foot of ocean and lake. But stand by the shore where submerged plants are growing, and as the sun arises and touches the surface with his beams, mark how the thick bubbles of oxygen sparkle amid the mass of vegetation, and in constant streams ascend and burst into the air. This process restores the life-giving element to water, and health floats on its white wings to the waiting inhabitants on its borders. With this marvel of divine goodness fresh before the mind, who will treat with loathing or neglect the humblest plant that mingles with its slimy sisterhood of algæ?

"We have taken but a mere glimpse of the

real treasures of the frog-pond, but it is surely insight enough to dispel the dark shadowings which at first repelled us from its banks. The gloom and death have passed away, like the fog that often obscures its surface when morning stands jocund on the misty mountain-top.

"Our study of the algæ has taken the scales from our eyes and lifted a burden of dread from the mind. The scene that brooded so drearily before the eyes of youth, and dwelt so darkly in memory, is transfigured. It no longer exhales only poison and death, but is seen to have a wealth of gems and benevolent possibilities.

"Should we turn from the mysteries of creation hidden among the slimy deposits beneath the waters, and give a few moments to a closer inspection of the mosses and lichens, a new world of beauty and wonder would be opened to our vision. One who has not studied them cannot have any just conception of the marvels existing in these humble and obscure forms of vegetable life. Found everywhere, and forming the lowest order of dry-land plant life, they are nevertheless endowed with singular elements of growth and beauties of form and coloring. But

as our line of investigation calls to a different field, mosses and fungi will be left to other rambles in Nature's obscurer pathways. (Frontispiece.)

"Pausing for a moment in our wanderings by pond and moss-bank, we wonder at the change which has taken place in our conceptions of Nature's handiwork. The low and obscure orders which have been under notice have become no longer disgusting, but are found to possess attractions that invite and well repay our investigations. After such revelations we are prepared to repeat, with an emphasis never before experienced, 'He hath made every thing beautiful in his time; also he hath set the world in his heart; so that no man can find out the work that God maketh from the beginning to the end.'

"The moral of this study of humble vegetable orders is obvious. 'The Lord seeth not as man seeth; for man looketh on the outward appearance, but the Lord looketh on the heart.' Man is prone to judge of things from what, on a hasty and imperfect glance, they seem to be; God, however, judges from what things actually

are. It seems to me that what we have seen to-day teaches this lesson, that we need to exercise extreme caution lest in our ignorance we greatly misjudge the works of God. He has pronounced all the works of his hands 'good,' and it is presumptuous and profane to impeach the divine verdict."

After this study of obscure life, the lowest round at the very foot of Nature's beautiful ladder, the party repaired to the shade of some evergreens overspreading a luxuriant mossy carpet, and proceeded to enjoy an abundant picnic dinner which the girls soon spread in order. It was evident that this part of the programme for the day's enjoyment was fully appreciated by the young visitors; as to the moral effects of the lessons of the day, later revelations must give answer.

CHAPTER VI.

THE SECOND STEP, OR A CASKET OF POND JEWELRY.

AFTER accompanying the Deans to their home, the two young friends repaired to the quietness of their own room, both seeming to be in a somewhat reflective mood, which was at last broken by Rudolph, who said,

"Well, Charley, what is the prime factor in this day's experience? Is it cold chicken, animated calico, or confervoid algæ? As to my conclusions, I think I could make a tolerable life of it with such surroundings."

"Ah yes, perhaps so," was the rejoinder, "but I have not yet quite succeeded in fixing the equations of the problem to my satisfaction. The cold chicken was excellent, flirting with the girls delightful, and the doctor's conversation very entertaining; all of which will leave a more agreeable recollection of the dismal surround-

ings than we should have carried away had we departed with nothing but the remembrance of our night's floundering among its bogs and mud-holes. But then, the sum-total of the experience is only as a flash of light in the darkness; the moment's illumination leaves the gloom more intense than it was before. We cannot always thus dally along the pathway of life, and its brief resting-places are too few and far between, and only serve to make the thoughts of journeying from one to the other more painful; indeed, every new indulgence only makes me shrink with a greater reluctance from making another effort."

"Well, I am sorry," replied his companion, "and I much fear that the cold chicken and sandwiches have not set well, or that Miss Minnie has somehow disturbed your equanimity, so that you have not quite got the true intent of Doctor Dean's instructions. If I have correctly understood him, he is trying to show us that the bright spots in life's progress are neither so few nor far between as we often imagine; nay, rather, that there is really no gap at all, except as we make one ourselves, the pathway being one of continued radiance if we will only open

our eyes to behold the illumination. We had a sad and painful experience when wallowing in the slough the other night, and hurled our anathemas upon it without stint; and should have judged it to be about the last place in all creation where one could look to find stores of delightful entertainment. Doctor Dean has shown me, at least, that such conclusions would have been entirely wrong. He has made it plain that the very mud and slime which smeared and repelled us the other night are nevertheless teeming with forms of beauty, and that they are correlated with a beneficence of design which culminates in man's completer happiness."

"All very true," was the reply. "I inferred that such was his purpose, and I give him all the credit due for his kind intentions; but to me the force of his logic was not at all conclusive. The foot of his ladder is planted in the mud, and I fear that as we attempt to climb it it will sink deeper and deeper, so that when we reach the top round, instead of being above clouds and storms, we shall still find ourselves floundering in the same slough of despondency from which we sought to escape."

"But let us hope for better results," responded

Rudolph. "For one, I feel disposed to give the good doctor a fair and candid hearing, and will try and hold fast to all that is good, and I hope you will fully join me in this determination. We shall at least make some progress in natural science, if we do not in forming truer conceptions of life."

"Oh, certainly," was Davidson's reply. "I was very much interested in the strange and beautiful revelations of the microscope, and shall be ready to attend the doctor whenever he shall invite our attention to new objects of study."

"All right, then," was the answer; "we are in for the frog-pond course, and I hope it may as completely remove the mirk from our minds as we have cleansed its mud and slime from our clothes."

At the appointed time teacher and pupils were standing on the borders of the pond, and Doctor Dean began his lesson by saying:

"Our attention was arrested the other day by some elegantly shaped and colored objects that were floating across the field of our microscope. The first strong impression of the uninstructed would be that they were gazing upon

a rare collection of gems curiously endowed with the power of independent motion. Could the fact not be readily substantiated, it would not be easily credited that these splendid brilliants are only exquisite forms of vegetation, which may be fished from the slimy deposits of a frog-pond. But such is the fact, incredible as it may seem, and it is not the only striking instance wherein some grand secret of Nature is unexpectedly brought into clear observation by the wonderful instrument we are using. Many a burden of superstition and dread has been rolled from the mind by its truthful illuminations; as, for instance, in the case of reputed showers of blood. These phenomena have filled whole neighborhoods with horror and dismay. Now, a moment's inspection of these sanguine drops in comparison with true human blood will dispel the ghastly terror at once. The irregular blotches of *Palmella cruenta*, which these dreaded drops prove to be, bear little or no resemblance to the beautiful and perfectly-formed blood-disks of the human veins and arteries. Ignorance and superstition are blind guides in Nature's pathways, ever mistaking her revelations and purposes,

and then charging her with the sad results of their own follies. But go where we may and search what we will, a devout sense of an all-pervading wisdom and goodness will illuminate and beautify the path of our steps and the objects of our contemplation.

"A striking illustration of the divine association of a devout spirit and a keen insight into the secrets of Nature is furnished by the minute and beautiful forms of vegetable life now under contemplation. Found more or less plentiful in all fresh waters, they particularly abound in clear pools and gently-running brooks, where they often form thick accumulations over everything submerged, giving a delicate tinge of green to the entire waters.

"The forms of these vegetable gems are of the most exquisite patterns—diamonds, crosses, shields, crescents, scrolls, ribbons, globes, and stars, and all the devices of heraldry. The centres are generally of a brilliant green, delicately bordered and barred with filigree-work of purest crystal or pale azure. In nearly all the specimens minute dividing-marks are seen, and when watched closely for a time an actual separation takes place, and the gem breaks up

into two or more fragments. The rending, however, has not destroyed the exquisite structure: far otherwise; it has only added new brilliants to the collection of watery gems.

"These marvels of vegetable beauty possess not only the faculty of multiplying by subdivision, but the reverse one of conjugation. They not only break in pieces, but unite their fragments, and in either case a new gem has birth.

"The varieties of vegetable beauties already named may be called the fixed jewelry of the pond; but wonderful as they may be, they are quite eclipsed by another class which may often be seen rolling and flashing across the field of vision, as with a microscope we are scanning with enraptured gaze the tiny brilliants of a water-drop. The thrill of delight experienced when the eye first beheld the exquisite *Volvox globator* will never be forgotten, nor when it traced the more gorgeously colored *Eudorina* moving in graceful evolutions through its watery home. Startled by the first sight of such marvels of beauty where their presence had never been suspected, the eye follows the mazy dance of gems with exquisite delight as they flash back the rays of light in all the daz-

zling tints of the rainbow. Under such a spell, it is not surprising that it requires some moments of cool reflection to fix the conviction in the mind that what we are gazing upon is an actuality and not a brilliant dream.

"In a former study we met with certain vegetable fronds that were endowed with a show of independent motion akin to animal life, but these plants were fixed and stationary. In the *Volvocina* we first meet with the singular forms of vegetable life possessing the power of locomotion as completely as any of the more highly-gifted races of the animal kingdom. Indeed, this gift, which had always been thought the exclusive distinction of the animal orders, was found in such perfection in these vegetable wonders that the first observers placed them without hesitation among the animals—a mistaken judgment, that was only corrected by the searching tests of chemical analysis.

"The *Volvox globator* is first observed as a minute globe-like cell, moving quite rapidly, with a rolling eccentric motion, often suddenly reversed or turned to one side. Its body seems formed of jelly slightly clouded, in which are embedded a number of little greenish spots,

being the germs of new organisms. The whole globe is enveloped in a delicate network, like that surrounding a balloon. Projecting from each intersection of the net-strands, two hairy filaments are noticed, by means of which the motion of the body is obtained. Often the movement of the parent globe is arrested, and for a moment it seems turning on a pivot, and then comes nearly to rest. If now watched closely, a rupture is seen to take place, and one of the green spores makes its escape, when parent and child at once part company, each moving off, indifferent as to the fate of the other. This, in brief, gives the general formation and destiny of the *Volvox*. Were descriptive science the object of these studies, many hours could be passed in giving the wonderful endowments of these gems of the pond, their mutations and modes of propagation. But this is not our purpose; we study to admire the work and adore the Worker, and so will not cumber our thoughts nor dull our sensibilities by detail and technicalties.

"To enjoy a personal inspection of these exquisite productions of Nature, the microscope must be used. With this instrument in hand,

go on some August day to a clear pond or meadow rain-pool and gather a few fronds of any water-plants or strands of submerged hay, and you will doubtless have an opportunity to feast your eyes on some of the most exquisite objects ever looked upon. In addition to those specimens of water-jewelry already named, but more rarely, the *Eudorina* will be found floating and rolling before the eyes. Smaller in size, but more rich in coloring, it is indeed a thing of beauty. The *Synura* and several other forms of this order of minute vegetable life will be found, but further detail may be omitted, for, like the rainbow, description can give no just conception of the bright reality: sight alone can hold the picture up to the excited imagination, and then there will be room and verge enough before the mind will fully get the glories of this beautiful life as Jehovah fashioned it.

"What a sublime idea of creative power is impressed upon the mind when we try and measure its possibilities from the standpoint of these globular atoms in a drop of water, sweeping onward and upward to the incomprehensible magnitudes of the stellar worlds! And truly, the infinitely *great* has not plainer proofs of the

handiwork of the omnipotent One than are impressed on the infinitely *small.* The magnitude, so vast that our powers of mind fail in attempts to comprehend it, makes no clearer revelation of God than does that which is so small that we are unable to measure diameter or circumference. Man could as easily make the *great* as he could fashion the *small;* and more easily, for the great might be only dead matter, but the minute *lives.*

"Before this lesson of Nature's marvels is complete, one other member of the beautiful *Volvocinas* must receive a fitting mention—the *Gonum pectorale*, or microscopic shield. There is now before the eyes a nearly square plate of hyaline, or jelly-like matter, enclosing sixteen minute green points. The body is constantly in motion, which is varied at almost every turn; now sidewise, oscillating, seesawing, or rotating; often with a sudden reversal of the movement. In the midst of these evolutions the body flies apart into sections of four green spots, and each one keeps right on in its independent life, beginning anon to repair the damage by restoring to each separated mass the original number of sixteen spots.

"But we must pause, though the collection of vegetable jewelry has received but a partial examination. The object of the lesson, it is hoped, has been obtained—the rescue of seemingly natural deformities from the unjust judgment passed upon them, and the corresponding impeachment of the works and ways of him who made all things in infinite wisdom for a place and a purpose, the glory of his name and the good of his creatures.

"Whoever has been enlightened by a study such as just been set before our minds can never contemplate the places where Nature has made such rich depositories of her treasures with loathing, nor sanction the charge of misdirected energies. On the contrary, one thus instructed and delighted will hold in a new and clear light the works of God, and feel a stronger impulse to join in devout adoration. One so enlightened will have more vivid conceptions of divine goodness. He will not only see the glory of the Creator spread over the heavens, and touching hill and valley with something of his own majesty and beauty, but mark its illuminating beams among the most obscure walks and ways of Nature. With this wonder-reveal-

ing guide, we can descend among the slimy deposits of pond and pool, and find everywhere such marvels of beauty and skill that there will be no mistaking the source of these rich adornings.

"But, clear and unmistakable as have been the waymarks of Jehovah's presence in wonder-working skill among the algæ of the ponds, the study of the treasures therein concealed is but just begun. The life and beauties thus far traced out are endowments of the lower orders of vegetable life; the thing 'having life' has only been brought into observation. This life the plant has fed and nurtured, and has served but as the scaffolding of the building of animal existence. During our investigations, however, the foundation-stones of this grand superstructure have been revealed—hidden, like those ministering to their formation and growth, by their own minuteness. In the next study we will take another step up the ladder of creative progress, which will elevate us to the plane of the animal kingdom, though the step will be but a short one—from *Desmid* to *Diatom*—and leave us still beneath the waters of the frog-pond."

"Well, Lew," said Davidson, as they parted

from their instructor, "I will admit that I have been very much interested to-day without the adjuncts of feminine attractions and good eating; which piece of good news may lead you to cherish some hopes that I may yet be brought into a tolerable degree of civilization."

"Bravo, chum!" was the response of Rudolph; "that is a very encouraging sign, if the fit will only last long enough to hold you to the better purpose. There must be something in man's destiny worthy of a noble ambition, and it certainly is more manly to strive to search it out than to drop down to the level of the brutes, to live without an object and die without a hope."

"Well," replied Davidson, "if I hold to my present determination, the bears and wolves may lose a rare companionship, and so let us open our eyes and ears, and may our better angel guide us to a happy conclusion!"

"Amen to that prayer!" said Lewis, "and may he give us a good speeding!"

CHAPTER VII.

THE BEAUTIES OF THE "FIRST-BORN OF LIFE."

AS two days spent on the borders of the dismal pond were regarded by Doctor Dean as amply sufficient to fix the desired impression, the next interview with his young friends was appointed to take place in his study, where suitable provision was made to continue his researches by abundant specimens of its turbid waters and submerged plants.

On the designated evening the welcome visitors found the doctor and his family assembled in the cozy library, with his microscope and specimens properly arranged for the lesson of the hour.

After a brief social intercourse Doctor Dean began his conversation by saying:

"When we are entering upon any investigation or pursuit, it is the part of prudence to fix on the definite object to be attained; otherwise,

much valuable time may be squandered, and our resources expended with no satisfactory results. We have entered upon a search into the mysteries of Nature, and the true question for us to keep in view is, 'To what result are we aiming?' The final purpose will have much to do in determining the instrumentalities which we may use in securing our object and in deciding on the real value of the results. If we desire to gain wealth, then we must resort to the crucible, hammer, and chisel, and delve in the workshop of science. These implements will help to fill the pocket, but when success is most complete there may still remain but an empty and an aching heart. Long and painful experience has taught all truly reflecting minds that knowledge has a nobler end than to heap up sordid treasures or feed the baser appetites. To reach this higher good, it has been found necessary to get out of the smoke of the testing-furnace, the noise of hammer and chisel, and to ask not 'What will this profit?' but 'Whither does it lead?' The only way that will grow brighter and brighter and culminate in a perfect day is that which leads up to the temple of worship, the holy place of the Most High. In that Divine

Presence true science forgets abstractions and utility, and most devoutly worships. Standing in the vestibule of this sacred fane, the language and purposes of the school and counting-room are as much out of place as were the doves for sale and the coins of the money-changers in the Jewish temple of old. Brought there as devout offerings by the sincere worshipper, Jehovah received them as acceptable tokens and blest the giver with his favor; but when avarice cumbered the sacred courts with these objects for the purpose of barter and gain, they were a pollution and an offence, and the profane owners were scourged thence with indignation.

"The study of Nature has a scientific and a utilitarian aspect, but they are in the lower plane of investigation, and they only reach the higher and noblest purpose of all knowledge who learn

'To look through Nature up to Nature's God.'

"Knowledge that brings the soul nearer to God and feeds it with the fellowship of his love is more to be desired than much fine gold or treasures of precious stones. Therefore the earlier in life a desire for such knowledge be-

comes the guiding motive in all our studies, the sooner will true happiness reward our efforts.

"Having, as I trust, got our feet firmly fixed on the ascending ladder, let us keep them there, ever looking upward, for the 'way of life is above to the wise.'

"In our previous studies we have been dealing with the lowest forms of vegetable life, and have found them mysterious and beautiful; but, however attractive they have been, they must yield to the richer glories of the 'first-born of life,' which we are now to consider.

"Take an atom of dust from any alluvial deposit, found on the surface or in the deepest strata, and it will be found mainly made up of the skeletons of the dead. Choose a splinter of marble, a piece of chalk, or any of the stratified rocks, or even of the hardest flints, and lo! we are inspecting the cemetery of incomprehensible millions, whose well-preserved skeletons attest the fact of a marvellous multiplication of a past life. These remains, although so minute, may almost lay claim to be the foundation-stones of the earth's superstructure. Fossil diatoms are found everywhere, and attract

not only by their abundance, but by their exquisite moulding and pencilling. Go search the profoundest depths of the sea, the foundations of the everlasting hills, or the rocks and dust of Egyptian tombs and pyramids, and everywhere the remains of diatomacean life are found still 'beautiful in death.' The insignificant life, the merest clot of jelly, has passed away, but the silicious casket where it once tabernacled remains as perfect and gem-like as when the vitality was first dashed out.

"Should one first pursue the study of fossil diatoms, he would be greatly astonished to find that there is an unbroken descent from such hoary ages. Every pond, river, lake, and ocean is peopled with an equal infinitude of diatoms bearing the unchanged lineaments of their extinct ancestors. If we should hang the exact portraits of the ancients of the race and those of their latest descendants in the same gallery, the most curious inspection could hardly designate the place which each should occupy in the grand genealogy of the family. The study of these ancient and minute organisms gives no sanction to the development hypothesis. Called the 'first-born of life,' they have come down

the ages, wearing the exact 'image and superscription' of the first ancestors.

"With this knowledge to increase the awakened interest, a study of living diatoms cannot fail to be one of great attraction, giving enlarged conceptions of the marvellous works of God.

"Returning again to the unsightly pond wherein so many wonderful and beautiful things have been found concealed, let a shallow place be selected where there is a plentiful infusion of vegetable growths. If the spot is noted carefully, a yellowish tinge will be found to prevail, quite distinct from the shade of the deeper waters. To a careless inspection no visible cause for this difference will be found out. Dip where we may, however, and subject a drop of the water to the penetrating search of our instrument, and the golden hue is at once accounted for, and much to our astonishment. The discoloration is caused by uncountable millions of exquisitely shaped and tinted minute shells or frustules, or leaf-like coverings, being in fact, the forms of living diatoms, minute homes of silica. What an array and perfection of geometrical forms and splendor of elaborate details! The deftest human lapidarian art may

copy, but never hope to emulate, the matchless glories of these divine originals. Too minute for the eye to see or the fingers to handle, Jehovah has shaped and beautified and filled earth's teeming waters with these treasures of his skill. The worker in gems spends many days in fashioning some rare device, his skill and patience stimulated by the admiration which he hopes to excite when his workmanship is placed on exhibition. No human artist would seek to fill some dark obscurity with elaborate specimens of skill and ornamentation; but God's ways are not our ways; and besides, there are other eyes than ours to see, and other hearts to love and tongues to praise. The exhibition, in some striking way, of his omniscience and omnipresence, undoubtedly excites angelic adoration and wonder, as it also gives to us a more emphatic attestation of these infinite attributes. The star set in the heavens, and the mountains reared and girded with power, are the grander monuments of divine skill; but if any place could be found barren of all evidences of creative wisdom and goodness, the scoffer might say, 'Where is thy God?' To rebuke and confound all who question the being or power of the Infinite One, he

has left his witnesses in all places of his dominion, and so endowed with authority and truthfulness that they bear no uncertain testimony. We cannot dig so deep into the bowels of the earth, descend so low into the depths of the sea, nor find nook or corner so hidden from common observation, but will be found full of gems of divine workmanship.

"Look now and wonder at these tiny objects. They are the scrapings from an unsightly ditch, or have their dwellings among the slimy fronds of pond-weeds and submerged vegetation. Minute as they are, and repulsive as may be their visible surroundings, where shall we find a fitting comparison to their beauty and a competitor to match the skill of their fashioning? At the great Centennial Exhibition crowds lingered in wondering admiration among the glitter of Tiffany's collections of gems, or before the rich exhibits of crystals and Bohemian glassware; but in all their splendors they reached not the exquisite perfection of this living jewelry with which God has made refulgent a drop of ditch-water! Oh, how unwearied the hand and how unbaffled the mind that can so delicately fashion and store away in every atom of

earth and drop of water these minute attestations of infinite skill and goodness!

"These are living gems which multiply so rapidly that they are adding layer after layer to the earth's surface, a conglomerate of minuteness and beauty. They are seen in verd-antique, agate, amethyst, jasper, opal, and many other precious stones, so prized as personal adornments and objects of value. They do not possess the activity and variety of movements seen in the desmids, but they have motion. Watch these two frustules of *Navicula* or *Pennularia* as they slowly near each other. Anon they touch at some point, and how suddenly they come together as though strongly attracted each to the other! Mark that long chain of quadrate striated spores, resembling the workmanship of a bracelet. A curious activity will be noticed among those golden-green links; they break up, and, turning to the right or left, corner touches corner for a few moments, and then they part company, each to become the centre of a new generation.

"Here is seen a beautiful fan-shaped palm tree, golden and crystal leaved, whose foliage quivers for a moment and then breaks into a

shower of jewels. Here are necklaces of rare brilliancy, and rings, brooches, and pendants, crosses and crescents, and all the forms that angles can make, beautified with crystal lines and set with all manner of precious stones. Truly here is an exhibition of the wonderful and beautiful that might hold enraptured an angel's vision, and certainly is enough to excite every devout mind to warmest praise and thanksgiving.

"But beauty and wonder are not alone enthroned over diatomacean life. The hand that everywhere arrays Nature in glory and beauty drops with equal liberality the treasures of infinite goodness. When our admiration is sufficiently satiated to allow any material research, the little diatom will be found to subserve a very important purpose in the economy of Nature. In almost all forms of vegetable life silica is an absolute essential of growth; especially is this true in the grasses, grains, and all endogenous trees, on which man's life is so largely dependent. These orders of vegetation obtain the material for their outer covering from this mineral. But we find the silica massive in the hardest of rocks, quartz, and in many of the

precious gems. In these conditions it would be useless to vegetation, and even when disintegrated by the wash and wear of the elements, it would be in a form so gross that it could not be assimilated by the plants, hungry for its nourishment. The tiny diatom, the largest of which does not exceed the fifty-thousandth part of an inch, takes the intractable element and manipulates it into such infinitesimal atoms that the hungry mouths of the woody pores can devour it with avidity, and from the abundant supply weave the glassy robes which Nature demands for their adorning. In this light we can trace the wisdom and goodness manifested in the formation and wide diffusion of the diatoms. The little jelly-like atom inhabiting one of these silicious frustules is but one of Jehovah's benevolent workers employed in filling up the grand storehouses of eternal goodness. Working obscurely beneath the surface of pond and brook, quite out of sight of those most largely benefited by their service, yet they are as much under divine guidance, and subserve as clearly the plans of Heaven's benevolence, as do the greater forces and activities which come constantly and impressively under notice.

"From a study like this we may obtain new and profounder conceptions of the Divine Superintendent? He watches the falling of a sparrow and numbers the hairs of our heads; but these are things coming within the scope of our observation. In fashioning the form and directing the life-purpose of the tiny diatom we have another and striking instance of God's care and supervision. How much nearer it seems to bring the Infinite One! and we can feel with a sweeter sensibility the upholding of the 'everlasting arms.' The all-gracious One who built and adorned the stony tenement of the insignificant diatom not only numbers the hairs and watches over the safety of this 'our earthly house,' but prepares a grander mansion, a 'house made without hands, eternal in the heavens,' for the indwelling of his saints when the earthly one is dissolved. And thus the study of the living jewelry of the pond has led us to the portals of the pearly gates, from whence we can obtain glimpses of the golden streets and jasper sea, and the glory of him whom the blood-washed and white-robed are praising day and night for ever and ever.

"I have intimated that I have thus far only

touched the lower rounds of the glorious ladder which we are attempting to climb, and I deem it but just, at this stage, to give you an opportunity to indicate whether my efforts to assist you have been so successful as to inspire you to a further following. If I have failed in my intentions, I do not wish to force upon you any further guidance, and these formal interviews may come to a close."

To this intimation Rudolph promptly answered:

"Speaking for myself, doctor, I can truly say that I have been deeply interested in the subjects investigated, and I trust also not altogether indifferent to the higher moral lessons inculcated. I shall cheerfully give all the time and attention which you may require to complete the course you have marked out."

"Thank you," was the cordial response of the instructor; "and how is it with your friend? Delving into the secrets of a slimy frog-pond may not be quite as interesting nor as exciting as climbing mountains to seek a companionship with grizzly bears and herds of buffaloes."

"Well, doctor," replied Davidson, "I begin to think that I am a little bearish in my nature,

or have the thick skull of a bison, or you would not have found it necessary to spend so much valuable time and attention upon so poor a subject; and if you are willing to bestow so much consideration upon one so little deserving, I shall gratefully avail myself of your generous instructions."

"Be assured, my young friends," was the response, "it will be no unwilling labor to continue these interviews, but a pleasure rather. In our next conversation, then, we will take another look at the treasures of divine skill found in the unseemly storehouse from which we have already drawn so many wonderful and beautiful things. I continue searching the turbid waters of the repulsive pond, in order that you may be duly impressed with the fact that where the uninstructed see nothing but loathsome barrenness God often hides the amplest attestations of his creative skill. The celestial ladder was but a beautiful dream to Jacob until he awoke, but when his eyes were opened, then it was that he exclaimed, 'Surely the Lord was in this place!' God is all around us, in every place, in everything, yet we may be wholly unconscious of the glories of the divine

presence if we are too sluggish to open our eyes, or too indifferent to search for the hidings of his glory and power. 'Man that is in honor, and understandeth not, is like the beasts that perish.' Certainly no one can be so dull as to mistake the moral of this expressive text."

When the two young friends had taken their leave Minnie said,

"Well, father, I begin to see indications that your labors will not be wholly fruitless, for you have evidently lowered by several degrees Mr. Davidson's good opinion of himself."

"I think rather, my child," was the answer, "that Mr. Davidson's chief trouble has not been so much from an over-estimate of himself, as from a want of self-understanding, and I am encouraged with the hope that he will be led to a true realization of life and its grave responsibilities."

"As for Mr. Rudolph," said Minnie, glancing at her more staid sister, "Ella is quite elated at his wonderful improvement; why, he has really become one of her aids in an attempt to introduce a little of the light of civilization into the benighted regions of Blufftown, in which benevolent work there can be no doubt of his being powerfully attracted to this good work."

"I am sure," was the reply, "that the neglected children of Blufftown and its neighborhood need instruction, and I am glad to have the aid of one so competent to help me; and I shall not be deterred from my purpose by any insinuations of my rattle-headed sister."

"Good for you, Ella!" was Milton's response; "you will find Lew a first-rate worker, and you need not stop to question closely the motives of his action, for whether he acts from love to the children or a liking for somebody nearer home, he will show his good sense, in my judgment."

"Pshaw! brother," was the reply; "you and Minnie are both making ridiculous insinuations, and had better find some other topic to employ your thoughts."

"True, my daughter," said the father; "but I am glad that young Rudolph has become interested in your work, for there is no surer nor speedier way to knowledge than the effort to impart wisdom unto others; and if Mr. Davidson could be induced to engage in a like enterprise, it would be an addition to the moral forces by which it is hoped the desired result may be successfully reached."

"In that work," said Ella, "the persuasive influence of sister Minnie might hope for success, for I am sure Mr. Davidson has been quite marked in his amiable attentions."

"Thank you, sister mine," was the quick reply, "but whenever I may urge men to do a good act, I shall take good care that the motives shall be of a wholly disinterested character."

"A truce, children, to your banter," interposed the father; "a good deed may be none the less worthy because of any proper personal regard for those who may be associated in its performance. Often the most lasting and happy friendships and more intimate relations have been the outgrowth of co-operation in works of mercy and benevolence. Pupils trained in such schools are the most likely to bear the divine image and superscription of their alma mater, and to yield a ready and unswerving adherence to her divine tutelage."

CHAPTER VIII.

A DROP OF WATER MARVELLOUSLY ILLUMINATED.

IN order to increase their interest in the lessons which he was giving, Doctor Dean had requested his young pupils to make a visit to the pond and secure suitable specimens for examination. He thought that this would not only afford the pleasure of co-operation and the excitement of a pleasant ramble, but would also assure them that no special preparation was made to secure exceptional examples for illustrating the topic under consideration. They themselves would gather the wonders, all unconscious of their existence until brought to their view by the manipulations of their instructor.

It is needless to say that the task imposed upon the young men was entered upon with pleasure; and they, in fulfilling it, spent half a

day in a ramble about the pond and peat-bog with boxes and jars. They had quite a different conception of its aspects and surroundings from that cherished but a few days before, when they were floundering amid its mud and mire, all unconscious of the treasures of minute life hidden in its sluggish waters. Inspired by the glimpses which they had so much enjoyed of the wonderful secrets already revealed, they cast many scrutinizing glances into the jars filled with water in which were placed many tangled fronds of hornwort and potamogeton, and tufts of duck-weed; but by such a careless inspection no wonders were revealed.

While thus engaged Rudolph could not resist the impulse to say to his companion,

"Well, Charley, I must confess that I begin to feel quite an interest in our new enterprise; and I am more than half persuaded that Doctor Dean is correct in his opinion, that the study of Nature is a task or a delight just in proportion as we pursue it with a worthy end in view, or seek to make it pander to some low aim. There is certainly a wide difference between filling a pocket with so many ounces of metal, and inspiring a brain with useful knowledge; between

gratifying a passion, and giving noble impulses to the human heart. I think I begin to realize, in some proper sense, the true purpose for which the mind was bestowed upon man; and hope I may be enabled to put what little I may possess to a better use hereafter."

"Glad to hear it, chum," was the response; "but I have still to confess that my mental operations continue in a rather mixed-up condition. To tell the truth, I am in a strait to determine whether I am endowed with mind enough to make it worth while to pursue any definite purpose; nor can I now determine whether the little interest which I perchance feel arises merely from the spice of novelty that I find in our present surroundings, or a slight quickening of the small modicum of brains I may really possess."

"Oh, Charley!" exclaimed Rudolph, "I was hoping that you had quite recovered from the 'dolefuls,' but I fear that you are incorrigible. Do shake off this mental nightmare, and put your mind to a better purpose than grinding out such musty grists of misanthropy and false philosophy. There are too many beautiful things in Nature to enlist earnest study, and too many

noble ends to be gained, to justify such despondency or waste of time and energies.

'Tell me not, in mournful numbers,
Life is but an empty dream!
For the soul is dead that slumbers,
And things are not what they seem.
* * * *
'In the world's broad field of battle,
In the bivouac of life,
Be not like dumb, driven cattle,
Be a hero in the strife!'

Longfellow has put the ring of a true philosophy into these noble lines, and let us try and march to the rhythm of their music."

"Ah, well, well, Lew," was the answer, "I will try and catch the step, but do not fall into 'quick-time' too soon, or I may weary and drop out of line long before we reach the end of the march."

"Do not be afraid, chum," replied his friend. "My progress will hardly exceed the pace of a 'slow march,' and so there will be not much danger of our parting company during this campaign, unless you and Miss Minnie take a notion to make a trip to Gretna Green before vacation is over."

"Well," said Davidson, "as there is about as much probability that Miss Minnie will become interested in my personal charms as there is that I shall ever be worth the serious thoughts of a sensible woman, you will probably enjoy my delightful companionship for a long time yet. But, as we have gathered a good supply of specimens, it would be better to adjourn this wise discussion. We can then report to the doctor the results of our expedition, and see what wonders of natural history we have unconsciously captured."

At the appointed hour there was a prompt gathering for the promised lecture, when the specimens collected by the young men were presented and received with thanks. The doctor began his remarks by saying:

"I judge from the appearance of your collections that you have been fortunate in securing specimens well adapted to illustrate that round in Nature's beautiful ladder on which I wish to place our feet in this interview.

"We have been lingering on the borders of a land filled with marvels of a minute world, but as yet we have inspected only a tithe of its curious forms of life. The lines of demarcation

between animal and vegetable life have not yet been so clearly defined as to make them fixed and readily distinguishable. Diatom and desmid have been alternately placed on either side, now exalted to the higher plane of animal existence, and now degraded to the lower order of vegetation. And although the keener inspection of modern science may have brought the question nearer to a settled conclusion, there is still enough to stimulate further investigation.

"As we have gazed, however, now wondering whether the objects holding our attention were plant or animal, other forms came into view, of whose character there could be no doubt: they were living creatures, as much so as the one gazing upon them. But how minute, how strange, how active, and how incomprehensibly numerous! and all forming but the life-world of a single drop of water! 'O Lord, how wonderful are thy works!' Often in one drop of ditch-water will be found more than forty different forms of infusorial life, and these so multiplied as to be literally countless. Tiny as they are, each one has all the organs of a distinct animal life; and circumscribed as is

their place of habitation, they have ample room for their amazing activities. Darting and dancing, rolling and crawling, a perfect maze of movement and motion, yet there is no clash nor collision as they pass their allotted existence and fulfil the grand purpose of their Creator. They feed and multiply, enjoy and die; and, living or dying, work out the sovereign will and benevolent designs of Infinite Goodness. Each is a wonder in itself, and all together form a picture of life that baffles the imagination.

"The first impression coming to every one when the hidden life of a drop of water is first beheld is that of profound astonishment. It is entirely new and unexpected—a world of life where none was thought to have existence, and of forms and habits that have no parallels in the circle of visible natural history. It is so minute as to be put wholly beyond the limits of vision, and so numerous as to baffle computation. As, when looking into a glass, we do not see our real self, but only an exact counterfeit presentment, so we see not the living infinitesimal life here, but only an image magnified and remagnified until the perfect similitude is

brought within range of our vision. Though by measure the distance is but a foot or less, yet looking down this long vista to catch a glimpse of the border-land of minute life, the sight is impressively grand. It is a sublime waymark of Jehovah's creative skill, yet it is only a fingerboard pointing on to still more remote regions. Multiplying the wonder-revealing powers of our instrument, and turning its penetrating inspection until its vision is wholly exhausted, still the climax of receding life has never been reached; there has ever been to the investigator a smaller still which baffles inspection, 'and there was the hiding of his power.' The beginnings of life will probably ever lie hidden from human inspection. Like one who has followed its downward pathway farther perhaps, and with a closer inspection, than any other man, we are compelled 'by an intellectual necessity to cross the boundary of experimental evidence,' and, by a faith to which he is an entire stranger, know that 'by him were all things created, that are in heaven, and that are in earth, visible and invisible,' and equally God-like whether hanging incomprehensible worlds in empty space, or peopling a

drop of water with millions of tiny inhabitants. The infinitely small has led us to the infinitely Great. We see not the life-mote which the all-wise One has fashioned and made to live, but we do most clearly and adoringly see, with the eye of our faith, him who is invisible, the only wise God, our Heavenly Father.

"But, folding the wings of our imagination, and retracing our pathway until we have reached the point at which the images of the invisible animalculæ are brought within the range of vision, let us for a few moments give some of them a closer inspection.

"The structural forms of the Infusoria are almost endless, and in their coloring they quite exhaust the tints of Nature's palette. The most common, and probably the most numerous, are known as *monads*. These animated atoms are little clots of jelly-like matter, with a single hairy filament as the organ of motion, and are of a great variety of shapes. In all shallow rain-pools and other still waters, during the warm months, they are so plentiful as often to tinge the entire accumulation. How numerous they may become can be understood when it is known that in a single drop, only one-tenth

of an inch in diameter, there are often literally millions. How active they are, swimming, feeding, multiplying, and dying! Yet a drop of water gives abundance of room for the full play of all their activities. A million of these tiny creatures could be arrayed like a regiment of soldiers on a parade, yet the line would not more than stretch across the period put at the end of a sentence in a quarto Bible.

"Call the pond a scene of dead stagnant water. Multiply, if you can, the monads inhabiting it, watch their ceaseless activity and endless multiplying, and then contrast the sum-total with the races of men and their history; and, if we judge by the relation of numbers and mutations, do all human chronicles furnish a fitting parallel?

"Turn now to another shallow pool. Its water has a pale milky tinge. A drop of this is put under our lens, and what a sight dazzles the eyes! There are thousands on thousands of curiously-shaped creatures in a shining, silver-like livery, covered with vibrating filaments, darting, whirling, oscillating, and rolling across the field of view. These uniquely-shaped and ornamented creatures are called by the learned *Paramecium*

aurelia. They form one of the most interesting families of Infusoria.

"But there is little disposition to be minute or special in description when so filled with wonder and admiration. The more we gaze, the more are we thrilled with amazement at the marvels of the divine handiwork, though the field of observation be but an insignificant drop of ditch-water. What a multiplication of strange and beautiful living organisms, any one of which might hold the attention for hours, and yet leave the 'eyes not satisfied with seeing'!

"These marvellous creations may not be the beginnings of life, but they are the first that come within the range of our scrutiny, and that put our feet fairly on the living ladder that leads up to him who is The Life both as a source and a gift. And what is the one thrilling sensation and question? Is it skill with a grand purpose? or creation without an end? If a drop of ditch-water is filled with such an infinitude of curious and beautiful existences, to what will the ascending scale lead us? If the foot of the ladder rests on such a marvellous foundation, on what a pinnacle of glory will the top-

most round find its culmination! When the most minute and closely-hidden life is so resplendent, what an indescribable revelation must dazzle when we shall reach the summit where God puts the crowning glory on the work of his hands! In our attempts to follow this radiant leading heavenward we must take one more step before we can leave the wonder-treasures of our drop of water. Our present advance, however, cannot fail to inspire our hearts with adoring homage to him

'To whom an atom is an ample field.'"

When Doctor Dean had finished his lecture, the young people were left for a while to enjoy themselves in a social way, when Miss Minnie, addressing Mr. Davidson, said,

"I suppose you are getting rather wearied with father's dabbling so long in trying to search out the mysteries of a frog-pond?"

"No, indeed," was the response; "I am very much interested in your father's conversation. The facts which he has brought to our attention are in quite a new field, and the use he has made of them very impressive."

"The animals," said Minnie, rather quizzically,

"to which he has introduced us are not quite so dangerous as the denizens of the Rocky Mountains, on whom, I believe, you have had thoughts of bestowing your special attentions."

"And *bear*-ly thoughts they were, I admit," responded the young man, "which I hope your father may succeed in fishing out of my muddy brains, unless, as is most probable, he shall find the infusion of sense so minute as to defy even microscopic detection."

"Why, Mr. Davidson," exclaimed Ella, "you are real naughty to say so, when God has so highly blest you with the means and capacity for acquiring knowledge; and so, as a just punishment for your heinous offence, I shall sentence you to row us across the lake to-morrow, where we have a call of duty to a sick and suffering family; and the only mitigation to your punishment is, that Mr. Rudolph may be one of the party if he feels so disposed."

"Thanks, Miss Dean," replied the young man; "I shall surely be on hand, lest, being alone in such an association, the sentence should fail to have its moral effect on my friend. The fact is, Miss Dean," he continued, "I have been trying my best to recover my friend from a ter-

rible fit of the 'blues,' but have so far most signally failed; and if you can do anything to assist in his recovery, it will be quite as much a work of mercy as any distress which you may alleviate by your proposed visit across the lake."

"Yes, that will doubtless be true," interposed Minnie, "if in crossing you can in some way contrive to get Mr. Davidson overboard and soak the color out of him, and thus convert the waters into a blue-bag, and thereby save the poor washerwomen many a dime for bluing."

"Many thanks," replied Davidson, good-humoredly, "for your kind consideration; but your benevolence takes the wrong direction; so I shall hardly consent to aid you in carrying it out, unless, perchance, you may need yourself to be fished out of the water before we get across."

"You are very kind," was the prompt response; "but in any such unfortunate contingency I should prefer to take my chances rather than to be dyed blue in my rescue."

"Ah, well, then," was the answer, "a truce to our disagreement, and I will pledge myself to wear the brightest face possible, and give the

most cheerful service, if such sacrifices will render my poor company useful and agreeable."

"Bravo! keep at him, Miss Minnie," exclaimed Rudolph; "why, there are marked signs of improvement, and half of the indigo is gone out of his countenance already."

This remark indicated that matters were now becoming rather too personal, as it brought a flush to Minnie's face and stopped the apt answer that was just on her tongue. The more staid sister perceived this, and, to relieve her indiscreet sister's embarrassment, she said,

"Well, then, promptly at nine o'clock to-morrow we shall be at the shore, and see what can be done to keep up the spirit of improvement; and if relieving those who are truly objects of charity can do anything to awaken the soul to noble impulses and impart true happiness, I am quite sure that we shall not fail in our experiences to-morrow."

CHAPTER IX.

A VISIT TO THE WIDOW AND THE FATHERLESS.

IT must not be inferred that Ella Dean was acting with unmaidenly boldness when she invited the young students to row her across the lake, as she was conforming to the expressed wishes of her father. Knowing that all instruction which leaves the heart untouched will fail of any good results, he desired to use such agencies as would be likely to rouse the dormant sensibilities of his pupils. From his conversations with them he inferred that much of the difficulty, especially in the case of Davidson, was owing to the possession of highly-sensitive natures which had been left, from want of proper direction, to grow morbid. The result of such a course would be a great misconception of life and its possibilities. To arrest this morbid tendency by giving a truer impulsion to thoughts and energies, Doctor

Dean suggested the plan which his daughter was aiding to carry out. The visit would be likely to accomplish the desired object, as the case would present a strong appeal to their sympathies. The widow Farley had been called to drink to the very dregs the cup of affliction. The family had originally resided in the vicinity of Boston, where they had enjoyed an easy competence, with the advantages of education and society furnished by that highly-refined city. In one of the frequently occurring financial disasters the Farleys suddenly found themselves almost penniless. Unwilling to remain where they would be so constantly reminded of their changed condition in society, they sought a new home in a more retired location. Circumstances directed their steps into the neighborhood of the Deans. With little remaining after reaching the end of their journey, they found a shelter in a log cabin on the borders of the lake around which Doctor Dean had so often loitered and studied. A scanty living was eked out by such odd jobs as could be obtained, but their main dependence was on the earnings of the eldest daughter as a teacher, a position for which she was particularly well qualified. But

the storm of disaster followed them to their new home. While engaged one night in spearing fish on the lake the husband was thrown from the boat and drowned. Mrs. Farley was thus left almost alone to battle with the world. She had little physical ability to bear even its ordinary burdens, but now was left with two children wholly dependent upon the united exertions of herself and her elder daughter, the latter being the main reliance. But, alas! this help was soon to be taken away and leave them to almost total want. From over-exertion and exposure the daughter, who possessed but a frail constitution at best, was prostrated by an attack of sickness severe and protracted. Though life was spared, yet from want of careful attention and suitable nourishment she was left an almost helpless invalid. A spinal affection made it impossible to walk, and confined her to her bed, with the occasional relief of being propped up in a chair with pillows. In most instances such multiplied afflictions would have produced a hopeless despondency, and the poorhouse would have been the refuge of the attending helplessness; but in the case of Mrs. Farley and her daughter an unshaken faith in the promise that

"all things work together for good to them who love God" kept them from sinking in despair and stimulated their energies and hopes. Their sore afflictions had indeed quickened the kind sympathies of their neighbors, who had generously responded to their wants, but no bitter complaining nor urgent importunity had been used by the patient sufferers to elicit attention and relief. Indeed, the cheerful resignation exhibited by the sufferers, especially by the daughter, was so remarkable as to arrest the attention of every visitor, leading most of them to feel, as they left their humble abode, that they carried away more than they had brought. Those who came with food and clothing for the body often went away with their souls nourished with celestial food.

Alice Farley, unable to engage in any active household duties, yet feeling the necessity of doing something that would add to the scanty resources of the family, spent her time in such fancy and needlework as she could obtain. But with her best endeavors she could only add a small sum to the weekly stock. She was remarkably intelligent, and her conversation, enriched by her discipline of suffering, had become

a strong attraction for the Deans. Their visits were always made with the expectation of being enriched by the opportunity, leaving them debtors rather than benefactors. Hence, Doctor Dean thought that an introduction to such a scene could not fail to awaken better impulses in the hearts of his young friends; the sequel will show how well founded his impressions were.

The special occasion which prompted this visit was the intelligence that Mrs. Farley had been afflicted by the loss of her cow; and, as this animal had been her main dependence, it was thought necessary to afford such relief as would keep the family from actual suffering until proper measures could be taken to repair the loss.

With this introduction to the Farleys the reader will be prepared to accompany the young folks on their visit. Promptly at the appointed hour the party was gathered on the shore, ready to cross the lake, which was about half a mile in width at the point of crossing. Milton had a basket well filled with provisions and groceries, while each of the girls carried small bundles that were to meet some need in the scant wardrobe of the Farleys.

When the young visitors saw these provisions to help the needy, their own empty-handedness became painfully apparent, causing no little chagrin, and leading Rudolph to remark in an undertone to his friend,

"Why, Charley, they'll think us either very stupid or miserly not to have brought something with us for the family we are about to visit. I'm afraid that the girls will form but a poor opinion of our generosity, unless you can make some suggestion that will help us out of the scrape."

"That can be easily done, Lew," was the answer, "if we find there is a fitting occasion for a display of our generosity. I suppose we can raise a dime or two between us, and you know money is always in place. But I'm sure that I shall make no display of liberality just to appear well in the eyes of the girls."

"Thanks for your suggestion," replied Rudolph. "I care as little as you do as to what two soft-hearted girls may think of our doings; but I do not wish any one to believe that I am sordid and mean, for I do not own up to such traits of character."

"Well," answered Davidson, "as I hardly

know what kind of a character I am myself, I cannot justly call in question any judgment which others may form of me, and so must leave events to shape themselves, hoping that at last I may come out something less terrible than a monster of meanness. But now let us see to getting the girls into the boat, lest they think us boors as well as stingy; and may a kind Providence speed our voyage!"

The morning was a bright and balmy one, and when all were safely seated in the boat—a neat four-oared one belonging to Milton—Davidson, who was one of the skilled oarsmen of his college, took one pair of oars and Milton the other, and they were soon speeding their way across the water. With some gentle slopes which skirted the distance beyond the lake and peat-bog, and the thick clumps of spruce and larch decked in the richest green, the landscape was not without special attractions. To these points of scenic beauty Milton called the attention of his friends, that they might not go away with the impression that his home-surroundings were wholly destitute of the picturesque.

"You will see," said he, addressing his visitors, "that our little lakelet and the quiet ham-

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lets on its borders are not so gloomy and unattractive, after all, if looked at from a proper point of view and with the mist of prejudice no longer before the eyes."

"I much fear, brother," interposed the vivacious Minnie, "that Mr. Davidson has been so greatly exercised over the spoiled gloss of his clothes, that he fails to appreciate the brightness of our native landscape, and that he will go away denouncing it as the 'Slough of Despond' in spite of all our laudations; but I give him fair warning that I shall repay any unfavorable comments on its natural attractions by a plain statement of the cause of the averment."

"A truce, then, Miss Minnie," said the young man pleasantly, "and I will accept your terms of amnesty; so, no slander spoken, no secrets revealed."

"That, of course," interposed Rudolph, "includes all parties in the transaction, and so I may consider myself as safe under the terms of the treaty."

"Well," was the reply, "as we are on a mission of mercy to-day, I suppose you will have to receive favor under the conditions named; but let it be distinctly understood that all future

disparagement is precluded under peril of most condign punishment. If young men will tumble into ditches and frog-ponds at night, they must expect that there will be some question as to the cause."

"Though we could invite the closest scrutiny as to the cause of our late mishap," Davidson replied, "yet we pledge an honorable conformity to the terms of our contract, and hereby commission Miss Ella to make prompt and true report of any failure to meet the conditions of our treaty. In case of any such violation, the the punishment will be that Miss Minnie Dean must sit on a tussock of grass in the middle of the muddiest bog on the lake, and sing alto to a concert of bullfrogs."

"In which case," was the quick reply, "you can give me the keynote from the experience which you had the other night, when you both were taking so prominent a part in their vocal entertainment."

Just then the boat touched the shore, and put an end to any further banter, and soon the whole party were on the way to the humble abode where their coming was to bring so timely and welcome relief to the suffering.

The log shanty occupied by the widow was one of those primitive domiciles erected by the first settlers, to be vacated so soon as better homes could be provided. It was about twenty feet square, covered with wide slabs, with the usual stick-and-mud chimney, and stood at the edge of the woods, with three or four acres of cleared land around it. This ground showed no signs of recent cultivation, but served as a pasture for the cow of whose benefits the family had been so recently deprived. The only other signs of life around this poor abode were a few chickens busily engaged in a search after the scanty stores which Nature provides. The whole exterior showed that only extreme poverty could induce any one to inhabit such a dwelling-place; yet

> "It was the home—if that sweet name
> Be not profaned by place so drear"—

of one of earth's angels, to whom it was now granted to receive visits of ministration rather than to make them.

In response to a gentle rap the door was opened by a small lad who might well have sat for the picture of Whittier's "Barefooted

Boy," and the visitors were admitted to a scene that at once awakened sympathy. The pale and careworn mother was engaged in parching corn in a small skillet, the only provision for dinner which her meagre larder afforded. Reclining on a rude lounge, with a face pale almost to transparency and form emaciated until there hardly seemed enough left to retain her feeble animation, Alice was doubly engaged in knitting and at the same time giving lessons to her brother and young sister. Without such peculiar surroundings she would at once have attracted attention from the most careless observer. Her features, though so spare by reason of long suffering and poor nourishment, were still of exquisite moulding, while her paleness made more brilliant a pair of black eyes that fairly seemed to dazzle. Her hair, black as the raven's plumes, and naturally waving over her alabaster forehead, gave a fitting completeness to a beauty that seemed associated with one so frail only to show how it could triumph over opposing forces. The effect on the young men was strongly marked. They had expected to witness a scene of poverty, where only sympathy with physical suffering

would be called into exercise, but here they stood with a feeling of almost awe, as in the presence of one who could confer favors rather than receive them. The observant Ella saw all this as she introduced her associates to the mother and daughter. With no seeming embarrassment, nor useless apologies for the poor reception given, they were cordially greeted, and seated as well as the scant furniture of the cabin would admit. The intelligent conversation which at once commenced soon caused all thoughts of the poor surroundings to be forgotten, and they seemed once more enjoying the pleasures of a select company in refined society. But the kind office on which they had come after a while broke the charm of social enjoyment, and Ella, with all possible delicacy, made such inquiries as were necessary as to Mrs. Farley's needs.

"Many thanks to you all," was the grateful response of the mother, "and to our gracious Heavenly Father who has not left us to suffer, for we have a little corn left, but as I have not been able to get it ground, I am parching some for our dinner, as you see."

"Why, Mrs. Farley," inquired Ella,—"why

did you not let us know of your circumstances? and we would have seen that you did not suffer."

"Thank you, Miss Dean, but I and the children get along very well. Parched corn is very wholesome, but it is hardly suitable diet for poor Alice, who so much needs more nourishing food in her feeble health, and with such constant employment."

"Now, dear mother," was the daughter's tender answer, "how can you say that, when I am stronger than you are, and am not so harassed with cares? I am sure I have no cause to complain, but I am distressed to see my poor mother living on parched corn."

"No, no, my child," was the affectionate reply, "I am doing very well; but my heart aches for you, and I shall not allow this day to pass without obtaining something fit for my poor dear child to eat."

To relieve this painful scene, though it so strikingly illustrated both the faith and the affection of mother and daughter, Ella said,

"It gives us much pleasure, Mrs. Farley, to be able to supply both yourself and daughter with some additions to your comforts, for we

have not come empty-handed. My brother has brought a basket which my mother has filled with such things as she thought you might most stand in need of, and sister and I have added a little to the stock more especially intended for Alice."

"May the Lord bless your kind father and mother, and you too, for your kindness to us!" was the hearty benediction of the mother, uttered with tears of gratitude. As for Alice, her heart was full, and her eyes too, as she said,

"We shall allow no false pride to restrain our gratitude for such welcome and timely tokens of kindness. We are in great need, and accept your gift as sent by our ever-gracious Father, who has thus shown that he heard our morning prayer, 'Give us this day our daily bread;' and most surely he will keep his blessed promise to repay you a hundred-fold for your charity to his afflicted ones. May God's blessing make you as rich as your gifts have made us happy!"

What were the feelings of the two young men as they witnessed this scene, to which they had added nothing but their silent presence, we may not know, but that they were

deeply moved was plain from the moisture that dimmed their eyes. After a few more words of kindness and encouragement, the visitors withdrew, leaving the happy recipients to enjoy the benefactions which a kind Providence had sent them in their time of need.

To the young students the experience was a new and strange one—a revelation of life and of their own natures to which they had been utter strangers. With abundant means, not only to supply necessary wants, but also to indulge in coveted gratifications, yet they had been ungrateful and dissatisfied; but they had met those who were reduced to the lowest depths of poverty, bereaved and suffering, and who yet were devoutly thankful for a dinner of parched corn! Their shelter was a log hut in which they would scarcely consent to stable their favorite horses, yet there they had found an altar of gratitude for such a shelter from the storm and tempest. No wonder that they left such a scene of devout trust wearing a sobered and thoughtful demeanor. They could come to but one of two conclusions—either that the Farleys were great fanatics, or that they themselves were profoundly ignorant and un-

grateful. When they had reached the boat to recross the lake, Davidson begged to be excused from thus returning, giving as a reason that he wished to make a few sketches, and would walk home around the head of the lake in the evening.

Before the day closed circumstances indicated the influence which had been exerted over the minds of the two young men by the incidents just narrated, and which showed that new light and new impulses had been given to both.

Davidson visited a neighboring farmer, of whom he made a purchase of one of his best cows, which he directed to be driven to the widow, with strict injunctions not to reveal the name of the person who sent it. To say that, after this kind act, he was the subject of a new class of emotions is but to credit him with the common feelings of humanity; but in justice to his kindly act it must be added that, as he thought of the gentle and suffering Alice, and in imagination saw the glow of gratitude and joy which would light up her pale countenance, he was conscious of a thrill of pleasure to which he had been an entire stranger. He was very happy, and felt that he was so because he

had made others partake of a kindred joy. For the first time he felt thankful for the wealth he possessed, and received a true conception of how he might use it in a proper manner.

A liberal stock of provisions and groceries which were left at the widow's home that evening, with the information that a nameless friend had ordered them, showed that a similar purpose had been carried out by young Rudolph. Each had secretly formed his plans and carried them out, intending to keep the knowledge of the deed from the other and from the Deans. How successful they were, results must show.

CHAPTER X.

THE MARVELLOUS ILLUMINATION CONTINUED.

WHEN Milton Dean and his party returned from the widow's and reported the incidents of the day to his father, the doctor was not a little disappointed to learn that neither Davidson nor Rudolph had contributed anything to the relief of the distressed family. The impression made was a painful one, as it indicated a mistaken judgment as to the characters of the young men. Instead of possessing highly sympathetic natures, it would seem that they were sadly wanting in the commonest sentiments of pity for the suffering. Putting all the circumstances together, his hopes of awakening them to a truer conception of the nobler inspirations of life were very much lessened. Certainly, if they could look unmoved upon so peculiar a case of bereavement and

want, and then turn away without making the slightest effort to mitigate the burdens and sorrows of the afflicted, there could be little hope of success in any attempts to arouse such hearts to noble sensibility. But duty was duty; and, though discouraged, he was not despairing. He would pursue the course he had marked, trusting that a divine blessing might yet make the effort a gratifying success.

On the day following the visit of the young folks Mr. Dean himself went over the lake to the Farleys' to see what steps were necessary to supply their needs, especially in the case of the lost cow; and his great surprise can well be imagined when he found a very fine animal already grazing near the widow's home, and the family rejoicing in an abundance of fresh milk. Nor was his surprise lessened when he further learned that the widow's larder had been replenished with a barrel of flour and a liberal supply of groceries. To his careful inquiries as to the kind friends who had thus so generously attended to their needs, the happy family could only reply that some nameless friends had sent the things by the hands of some neighbors, but made it a condition that no efforts should

be made to find out their benefactors. Putting all the facts which could be obtained together, it was not hard for the doctor to draw the inference as to who these benefactors were; and the conviction brought a most agreeable revelation which quite removed the unfavorable impression made by the conduct of his young friends on the previous day. Indeed, the act was so exceptionally generous and delicate that it indicated the highest impulse of a sensitive nature, only needing the sanctifying influences of the Divine Spirit to make the generous actors in such a charity the truest benefactors of the world. Now that the latent springs of a truer life had been touched, a stronger hope was cherished that the way might be opened for these young pilgrims to the fountain of celestial wisdom and happiness. Praying for more faith and wisdom in his future efforts, Mr. Dean awaited, with an increased interest, the appointed hour for the next interview.

When gathered once more around the familiar table, before the regular lesson was begun, Doctor Dean said:

"Yesterday I met with a circumstance which makes me have a higher admiration of true no-

bleness of character—one of those rare events which show that all hearts are not wholly given over to selfish and sordid impulses; one that must have made the actors in so noble a transaction realize the truth of the Saviour's declaration, 'It is more blessed to give than it is to receive.'

"I went over to visit Widow Farley and her family yesterday, to look after their wants and to make provision to supply the loss of their cow; and to my great surprise I found that some very generous hand had already anticipated their needs by sending them one of the best animals from the stock of a neighboring farmer. Some other equally benevolent person had also made them happy by sending a barrel of flour and many other much-needed articles. The family were overflowing with happiness and gratitude; and I am sure if the kind-hearted persons who were so liberal and timely in their charities could have seen the happy faces of the mother and afflicted daughter, and heard the repeated and earnest blessings invoked upon their heads, they would have been more than doubly paid for their deeds of kindness. The thing was nobly done,

and the generous actors will not only have the thanks and gratitude of the happy recipients of their benefactions, but those of the entire community. It will be esteemed an honor to our neighborhood, as it is to the common brotherhood of man."

While Mr. Dean was making these remarks the flushed faces of the young men indicated the strong emotions of which they were the subjects, notwithstanding their evident attempts to appear self-possessed. Inquisitive glances were seen to pass from one to the other, as though each was trying to read in the other's face the facts which each was striving to keep in concealment.

For several important reasons Doctor Dean did not hint to his young friends his suspicions of their connection with the noble generosity to the widow, only availing himself of the opportunity of using the incident to give point to his moral lessons, which he did by saying:

"We have been searching into the minute and wonderful creations of the all-wise One, and have found in the smallest and most insignificant atom of plant or animal life marvellous instances of beauty and special adaptations.

These things, or at least many of them, would be useless creations if there were no intelligences to search them out; and why go to these voiceless instructors if there are no great moral lessons to be drawn from them? And in what can these tiny monitors instruct us if not to give us higher and clearer conceptions of the wisdom and goodness of God? As we resume the thread of our investigations let us carry this thought with us, and we shall, I trust, find the advantage of it as we strive to reach a higher round in our beautiful ladder.

"As we have not yet got our feet from the round hidden beneath the surface of our familiar pond, let me give some few reminiscences, which will explain why I have made it so prolific a theme.

"My first studies with the microscope were pursued wholly without instruction, and with only an indefinite idea that a drop of water was often the dwelling-place of many curious forms of vegetable and animal life. As each new revelation was made of the tiny inhabitants of this minute world, all the joys of a new discovery were experienced, in addition to the excitement caused by the strange forms gazed upon. As

all the specimens for quite a long period were taken from nearly the same spot, the number of species found was not very great, and was, of course, much influenced by the changes of the seasons. For some time the objects brought under the glass were different forms of confervoid algæ, with a mixture of *monads* and *Paramecia*. These, to my then inexperienced eye, were the most wonderful objects ever beheld. On one occasion, however, a little later in the season, happening to obtain my specimens from a warm, sunny shallow in which a small tuft of hay was submerged, a shock of surprise and delight was experienced. It was a first view of what may be regarded as the most exquisitely formed and beautiful of all the Infusoria, the *Amphileptus*, *Stentors*, and *Vorticellæ*. Many days and long evenings were delightfully spent in a never-tiring gaze at these beautiful objects —an indulgence that nearly cost the sight of a right eye, as for months afterward a black spot hung before the overstrained organ. No one who gets a true idea of the strange and beautiful forms of the Infusoria, in their intense activity, with their constant and magic changes of shapes and shades, can wonder that an eye

was perilled in beholding such a scene of enchantment. From that day these animalculæ have never ceased to be objects of delighted study, with their ever-impressive lesson of the wonders of Jehovah's handiwork.

"I am fortunate in having a rich collection of these minute beauties to submit to your inspection to-night. You can indulge in their examination as long as you please. In the wildest dreams of the imagination we could hardly picture creatures so strangely fashioned. Had the ancients been acquainted with the microscope, they would have had living models for all the nondescript creatures with which they so liberally illustrated their mythology.

"While the mind is thus wonder-wrought, who can help exclaiming, Truly, we do not have to search for, nor turn to, majestic sources to find that the 'works of God are great, sought out of all those who have pleasure therein'!

"But we must not dally too long; for, circumscribed as the field of our observation is, it is too ample to admit of much delay or minuteness.

"Among the larger and more complex organisms of the Infusoria, the *Rotifers, Brachoniæ*,

and *Stentors* attract first and most marked attention. The peculiarity of these wonderful denizens of the mysterious drop of water is the ciliated wheel which protrudes from the head, by means of which a graceful and rapid locomotion is secured, and also the food is captured. Adorned with the brightest and ever-changing colors, restless and eccentric in their movements, they awaken an untiring interest. These strange forms of minute life abound in nearly all shallow deposits of water, delighting in the warm sunshine and rejoicing in the hidden life which their Creator has bestowed upon them. But, having introduced them to your notice, they will be left for your future and more careful inspection; yet let us not fail to read the grand moral lesson so broadly and legibly written on every drop of water and slimy frond found in the dismal pond wherein is placed the first round of the beautiful ladder which we are striving to ascend.

"In our perusal of these unique pages much that is curious has been sought out, but nevertheless we have only touched the borders of this mysterious world. From a clot of animated jelly we have passed on through grow-

ing completeness of organization until the eyes were fascinated with marvellous forms of beauty. Conceive all these strangely-formed and brilliantly-adorned creatures in full activity, wheels revolving, with the flash of crystal, gold, purple, emerald, and azure, as they keep up the mazy dance of exuberant life, and it will be understood that no powers of description can do justice to the marvellous picture. But the eye that has ever looked upon it will never forget the vivid impression. The beholder will be impelled to say of the bright vision that

'A thing of beauty is a joy for ever.'

"But we must now take our last lingering gaze at the youth-repelling pond. As the glance passes over its surface and dwells upon the distorted landscape, there is little or no change in its natural gloomy surroundings. The waters are as stagnant as ever, the bog as widespread and dank, and the rank growth of vegetation as tangled and decaying, as in years bygone. The hooting of the owls at night as discordantly mingles with the croak of flocks of wild geese and the piping of cranes, making the air clash with ear-piercing sounds. The batrachian cho-

rus is fuller and more sonorous than before, by the increase of many generations with lungs as powerful and as ardent a disposition to give them constant practice. Still, at times, the Will-o'-the-wisp leads forth his blazing cohorts of vagrant fire-flies, giving just enough illumination to bush and brake to enable the untutored imagination to people the whole scene with certain creatures who traditionally deal more extensively in igneous materials, and who shine only to delude their poor dupes to darker recesses than envelop the borders of the dismal pond.

"But the weird spell of the external has been broken, and the veil of horror lifted from the scene. The *invisible* has become *visible*, and the glory and beauty of the revelation have spread such a radiance over the scene that the *real* is put out of view; and, like the breaking of morning, though it is the same landscape that the dissolving darkness brings back to the natural vision, the black pall of shadows which filled it with horrid shapings has been dispelled by the bright beams of a celestial sunrising. Henceforth these gloom-covered scenes of earth will be transfigured to the disenthralled mind; and dark and repellant as the earthly surround-

ings may be, the brightness of a celestial illumination will beautify all. For its jar and discord, sweet harmonies that swell from a heavenly keynote will delight the soul; for not only does spiritualized Nature lift the scales from earth-dulled eyes, but it also quickens the sluggish ear to hear voices that breathe sweeter melodies than are warbled from human lips — anthems ever unheard by the grosser throng, however loudly the chorus may swell around them.

"And now, with the foot just touching the first round above the surface, and turning from the unsightly pond, the picture which we carry with us is a gorgeous portraiture of heavenly skill. It will glow in memory in glorious contrast to the darkly-shaded one which hung in the chambers of youthful imagination, and which was drawn with such muddy pencillings when you were floundering in the slimy bog the other evening.

"In closing a study like this our fitting song will be—

> 'Let zealous praise ascend,
> And hymns of holy wonder, to the Power
> Whose wisdom shines as lovely on our minds
> As on our gladdened eyes the radiant sun.'"

CHAPTER XI.

AN OCEAN ROUND OF THE BEAUTIFUL LADDER.

WHEN the young men were once more alone after the last interview at the Deans', the thought that was uppermost in the mind of each found expression as Rudolph said,

"See here, Charley: did you send that cow to the widow?"

"Well," was the response, "I will be true to my Yankee blood, and answer you by asking, Did you send the flour and groceries to the same destination?"

"Give me your hand, old fellow!" replied Rudolph as he extended his to his friend. "I thought I had stolen the march upon you for once, but I own up clean beat both in plan and execution. It was most nobly done, chum; and I am sure that the satisfaction of such an

act is worth all the cares and disappointments of half a life."

"And I am truly glad," responded Davidson, "that I have a friend so well worthy to share the happiness with me, for, I will frankly confess, the experience has given me a new and peculiar pleasure."

"Why, how could it be otherwise?" said Rudolph with great earnestness. "I have vividly before my mind's eye the inmates of the wretched hovel—the poor poverty-stricken mother parching the scanty dish of corn for the meagre dinner, and the hunger-pinched children anxiously waiting for the wretched repast to be served up; and, more painfully distinct, the pale, sorrow-marked face of the suffering Alice is central in the picture, watching the preparation of a dish so little suited to her delicate and craving appetite. The unexpected and liberal supply for all their immediate wants is brought to their door, and I see the faces of the entire group change almost to a radiant glow, while tears of gratitude fill their eyes. Truly, Charley, our poor gifts have made one family rich and happy. Perhaps, chum, if you have a chance to give away a few more cows,

you will lose your desire to go and live with the grizzlies."

"And may God grant the speedy opportunities!" was the emphatic response of Davidson, "for I feel just now as though I were truly converted from my social heresy, and I want to be established in the faith beyond all fear of backsliding. Doctor Dean's lessons have given me some new and, I believe, more correct ideas of the purposes of study, and the experiences of the other day open to view a pathway that will render life not altogether useless or undesirable."

"That view of the case," said Rudolph, "is at least more manly and rational than to give up to despondency, or to play the fool or madman, as there was some danger of one or both of us doing. But it must not be supposed that every case of want or suffering will be surrounded with circumstances so specially fitted to awaken such deep sympathy. There will not often be, for instance, a kind of wingless angel, like Alice Farley, to make you feel that you are the deeper in debt the more you give."

"Yes, that's so, Lew," was the reply; "and for that very reason I am determined to make

the most of the present opportunity. I have the means, and instead of spending my surplus, as I had intended, in the purchase of a new pleasure-yacht, I will see to it that the widow and her family are placed in more comfortable circumstances; and if the suffering Alice can be helped in body or mind by any human agency, the means shall not be wanting until my last dollar is gone."

"Spoken just like your better self, Charley!" was the hearty response of his friend; "and I have but one suggestion of change to urge: you must not insist on taking all this charge upon yourself, but share the pleasure with me. True, I have not such means as you have, but I have enough to take a good share in the work.—And, by the by, do you think that Doctor Dean has any suspicion that we had a hand in helping the Farleys?"

"I am inclined to think that he has," was the reply; "and am still more convinced that the girls know the facts from two awful puns which Miss Minnie perpetrated when I met her this evening. 'Why, Mr. Davidson,' said she, 'I understand that you were guilty of a most *cow*-ardly act the other day, and it is thought

you did it with m-*Alice* prepense.' Wasn't it awful?"

"'Flat burglary, as ever was committed,'" was Rudolph's reply, "and proof positive that our secret is out; but that need not interfere with our plans. And perhaps, under the circumstances, we had better drop all further attempts at concealment, and take Doctor Dean into our counsel, for I am sure that he can greatly aid us in carrying out successfully our plans."

"Very well, then," replied Davidson; "at our next meeting we will do as you suggest; and no doubt the Deans will enter heartily into our enterprise. But we must use some expedition to get the thing well under way before we return to college."

"That is so," said his friend; "but you know that old Professor '*Snifty*' said, 'There is always sufficient time to do a good deed, while eternity is none too long for a miser to tell over his excuses."

"Well," responded Davidson, "I believe that is true, for it is but another form of putting the old adage, that 'Where there is a will, there is a way.' So let us have some gen-

eral plan mapped out by the time we meet the doctor."

"All right!" was the answer; "and so good-night."

It is hardly necessary to say that the thoughts of the two young friends were largely given to the subject of providing for the widow's family during the time which intervened until the next meeting at the parsonage—thoughts that lingered with a pleasure to which they had been strangers, and which, in marked degree, prepared their minds for the next topic of discussion.

When again convened Doctor Dean began by saying:

"Before we try further to ascend the ladder of the divine handiwork from the foot resting on the 'dry land,' we must trace 'his footsteps in the sea,' for even there, amid its whirl of waters, we shall 'see the works of the Lord, and his wonders in the deep.'

"From the first sight of the ocean up to the day when a careful inspection of its waters with the microscope was begun, it has been the grandest image mirrored on the soul—sublime in its sweep over two thirds of the globe, un-

curbed save by the hand of Omnipotence, and incomparably grand and beautiful in calm or storm. But its shores could be measured and bounded, its depths fathomed, its uttermost surface cut with keel and rudder, and all of its huge monsters captured by the skill and daring of man. It is mighty in space, power, and purpose ; but it is not infinite, and therefore entirely within the scope of man's contemplation. A fitting 'image of eternity, the throne of the Invisible,' yet from the first sight of this

> 'Glorious mirror, where the Almighty's form
> Glasses itself in tempest,
>
> 'I have loved thee, Ocean! and my joy
> Of youthful sports was on thy breast to be
> Borne, like thy bubbles, onward; from a boy
> I have wantoned with thy breakers; they to me
> Were a delight.'

"How singular that a single drop from the unmeasurable waters of the great deep should break the spell of sublimity by suggesting the *infinite*, when the grandeur of the whole had failed to bring this torturing thought to the soul! It was not the contrast between the tiny drop and the measureless fountain whence it was taken, but the marvellous life which that drop

contained, and the attempt to compare the millions of animated creatures which it revealed with the sum-total of all the life of the sea. In attempting the computation, hundreds of leagues of the ocean's surface were found tinged with various shades by the billions on billions of living things which swarmed in every square foot of its waters. The monsters of the deep grow fat and spread out their vast proportions while fed by these creatures, which fill the vast expanse of the ocean to repletion, and all over its broad surface flash in living flames in every billow that breaks in storm or curls from the prow of the dashing bark. Before the attempt to compute the sum of life that fills the ocean was fairly begun numbers failed, and the painful sense of the *infinite* came back. Since that time, when pacing the ocean-strand, the mind has been compelled to individualize, in order to escape the painful sense of the incomprehensible. On one occasion the timely appearance of a shoal of porpoises was hailed as a relief to the overstrained thoughts, for they could be counted, and in the effort to fix their number the mind found a resting-place.

"It is no small consolation to one who finds

that he vainly attempts to fix the aggregated life of the sea, that it furnishes a delightful study in the multitude of its orders, all rich in everything that can challenge inspection and excite enthusiasm and admiration.

"That mind must be peculiarly stolid which is not awed into reverence when the grand old ocean is first beheld; for certainly its vastness, its sublimity in calm or tempest, its curbless power, its profound depths, and its wondrous orders of life, all testify emphatically of the Infinite One. It might well be supposed that one would sooner be deaf to its mighty surf-beats than fail to behold him 'whose way is in the sea and his path in the great waters.' 'The waters saw thee, O God, the waters saw thee; they were afraid: the depths also were troubled.' And can there be one so insensate as to stand upon the shore of the awe-struck, trembling ocean, unheeding of the Divine Presence that ever broods on the face of the deep? The heart of such a one must be as hollow and as lifeless as one of the tenantless shells that the feet of its owner will spurn as he idly and irreverently walks the ocean-shore.

"To a devout mind the first strong impulse

on reaching the mighty deep is to kneel with the ceaseless throng of wave-worshippers that bow their hoary heads, as they touch the strand, in one unbroken circle of devotion. The tongue takes the keynote of its unceasing anthem of praise, and joins the grand choral of the

> 'Never-slumbering sea!
> Impassioned orator with lips sublime,
> Whose waves are arguments which prove a God.'

"Arising from this devout association of worship, the eyes will be unsealed and the soul quickened to behold and enjoy the marvellous things, 'both great and small beasts,' with which Jehovah has crowded the waves of the sea and peopled its deepest chambers.

"In this illuminated and reverential spirit let us aim to 'see the works of the Lord and his wonders in the deep.'

"We will not stop to measure the ponderous leviathan, nor wonder at his uncouth gambols; the most stolid clown is moved by such a sight, and there is a dilation of wonder in his dull eyes. Nor need those sea-wonders obvious to the most careless observation delay us; let us rather pass on to richer investigations. The

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true riches of the sea, like God's works everywhere, must be 'sought out of all them that have pleasure therein.'

"The glory and beauty of God's works are not dependent on massiveness of structure. The minute *Serpula* puts the whale into the shade, and the *Spirobus* outvies the dreaded devil-fish. And herein is a hint that may be followed. We are searching for the wonderful and the beautiful, and, having found so much to fill our cravings in a drop of water taken from a pond, whose surface and surroundings were so repellant, the drop shall be the initial in commencing a study of ocean-wonders. Dark, dread, and full of monsters that have no peers, the ocean is a picture too grand for comprehension or enjoyment; but a drop from its vast waves will not stagger our imagination. Therefore let us turn to it for a solace and an inspiration.

"It has long been known to the geologist that chalk-hills, beds of marble and marl, and even masses of flint and bog-iron ore, are composed largely of minute shells more or less perfect in form, and fashioned after the most beautiful patterns. Along the shores of the

great sea and in its shallow waters similar relics of a past life are found; but in the profounder chambers of the great waters, and amid the dash of its mid-ocean waves, no such treasures of creative skill were once supposed to exist. Indeed, it was argued, with great show of logic, that such was the pressure of the water, when of great depth, that all life would be crushed out, and even the hardest shell broken into fragments. The dropping of Brooke's deep-sea lead through seven miles of water, until it touched the bottom of mid-ocean, dispelled all of these learned arguments, just as did the landing of a steamer from Liverpool at New York the positive assertion which Dr. Lardner had just before made, that the thing could never be done.

"It is now well known that if the beds deposited in the deepest ocean should become indurated, they would present much the same conditions as the fossiliferous formations already mentioned, which are, without question, the result of deposition in deep waters.

"But beautiful as are these untenanted pearl habitations, and marvellous as they are in number, they are wholly surpassed by their living posterity, which have come down to us with all

the glories of their ancestors undimmed. The bottom of the ocean is everywhere populous, in depths and shallows, with forms of exquisite structure and adornment. Turning to the wave-swept surface of the ocean, an equal array of life and beauty attests the richness and skill of Jehovah's works.

"Major S. R. J. Owen, while dredging the surface of mid-ocean in different localities, often found his nets clogged by minute silicious shells of rich patterns and colors, which have been designated as *Polycystina*, a family of exquisite beauty. Add to this picture of the animated waves the fact already referred to, that hundreds of leagues of the sea are so filled with tiny creatures that the waters are tinged with red or green. But this exhibition of creative power will not be complete without noticing the phosphorescent corruscations of the uncountable billions of *Noctiluca* which people all the realm of the sea. They are nearly colorless, and so minute that when undisturbed the little ocean-illuminator is unnoticed, holding his living flame in reserve, but at the stroke of an oar or the dash of a vessel's prow the flash of every tiny torch sets the ocean in a glow.

Tell now their numbers and describe their beauty, if it be possible. Surely any one who shall make the vain attempt will never again ask the question,

> 'Is not God upon the waters,
> As well as on the land?'

"An attempted grouping of the beautiful wonders of the great deep staggers the imagination as the growing sense of infinity creeps over the mind. Whale and shark, porpoise and dolphin, have engrossed the common mind and served to represent the wonders of the sea, but only their grossness gives them claims to such marked consideration. Not so with the living jewels of the deep that lie beyond the ken of common observation, but which flash with astonishing brilliancy on the eye that lovingly seeks to pry into hidden mysteries. How astonished is such a searcher, as he inspects the softest piece of Turkish sponge, to find it a complete armory of swords, spears, crosses, and diamonds, rivalling the richest collection of ancient crown-jewels and knightly equipments! And then as he pauses to inspect *Asterias*, *Serpulæ*, *Actiniæ*, and a thousand as brilliant com-

peers, surely the might and majesty of the storm-heaved ocean will henceforth bear no more strikingly the impress of the Almighty One than will the beautiful testimony of these tiny creatures.

"When the microscope is laid aside, and the attention is turned to the life of the sea which lies within the scope of the common vision, a new scene is entered upon, boundless in extent, and, like the hidden marvels of the deep, surpassing all description.

"To get a vivid impression of the marvellous richness of this vast treasury of infinite wisdom it needs not that the whole range of objects should come under contemplation, nor even will it be necessary to give more than a cursory glance at the orders least known to the common observer. So filled is the great sea with the wonders of Jehovah's skill, that a glimpse at a few will leave no lingering doubt as to the origin of the whole. From the least to the greatest, be it tiniest mite or hugest monster, their emphatic testimony is, 'He who formed the sea and the dry land shaped us by his skill and bade us live for his glory.' It was upon the face of the great deep that the Spirit of the

Highest first moved to bring order and beauty into a world that was until then given up to darkness, waste, and desolation; and surely where that supreme power has been longest potent there should be some of the most striking evidences of its workings.

"To the careless observer the ocean seems to have no special waymarks of Jehovah's skill, save the bars and doors which restrain its outbreakings. To such its waters are a wild waste, and its bottom, cumbered with wrecks and desolation, the cemetery of unnumbered millions who have sunk there,

'With bubbling groan,
Without a grave, unknelled, unconfined, and unknown.'

The beautiful lessons already deduced from its watery records will sufficiently indicate the sad mistake of such careless loiterers by the seaside, and the additional pages of its life-history which are now about to be turned will probably make our ocean-study still more impressive.

"The grand life-mysteries of the deep are, indeed, as yet only partially developed, but enough have been yielded up to earnest searchers after its secrets to excite our wonder and delight. Begin where we may, and whether it

be to search its vegetation or its animal life, the discoveries we shall make will abundantly reward the searcher.

"The range of ocean-vegetation is immensely great, both as to extent of species and comparative size, in the latter regard extending, from the most minute microscopic spores that cleave to its rocks and beds, to the mighty fucus, often three or four hundred feet in length. These aquatic plants are as varied in shape and coloring as they are in extent. The ocean-gardens make up for the absence of flowers by a greater delicacy of stem, by feathery branches, and by a richness of tinting that is unsurpassed among the more favored flora that live in the glow of the sunshine. Those who have ever dipped these vegetable beauties from the sea-tides have enjoyed a rare sight. Many a home on the shore, where taste has found a votary, is adorned with marine bouquets, perfect gems of richness, made up of sea-moss, sea-silk, and other brilliant productions from the gardens of the ocean.

"When one has roamed long enough through these aqueous groves, then the endless paths of the coral continents will open invitingly be-

fore him. In this journeying, valleys of living flowers, pinnacles, and mountains, almost gem-like in their preciousness, will await exploration; gorgeous halls and domes hold the enraptured gaze; and, oftentimes, vast acres of formations so precious as to be greedily sought as among the richest treasures of human wealth —living gems when in their ocean-beds, and gemming the living when plucked by the hand of man. The little lapidaries that fashion these gems of the sea are often as beautiful as their precious workmanship, tinting the waters of the ocean with their delicate coloring, or making them flash and radiate with phosphorescent light. And now tell me, O dullard and doubter! has the sea no life nor voice to speak for God? Hides the deep no handiwork of Jehovah, and do its billows intone no anthem to his praise?

"For exhibiting man's power through the few thousand years of his existence some great cities are instanced, and the wasted grandeur of others is pointed out. Vain man! the little jelly-like toilers of the sea could cover up all your boasted monuments; hide your pigmy cities, so that their sites could not be searched

out, and yet have material enough to cover a multitude more of vaster proportions than any yet erected by the combined skill of the nations. There is no more astonishing result of living agencies than that which is furnished by the coral formations of the ocean; and what a clear and forcible illustration it gives of the assertion of the divine word, that 'God hath chosen the weak things of the world to confound the things which are mighty'! There are no monuments of persevering labor that can compare in skill and extent with the coral formations of the sea. They dam up its sweeping tides, fill the ocean with islands, and even continents, and re-map the surface of the globe. It is as though the hand of Jehovah were erecting new 'bars and doors,' in order to show his omnipotence to the puny nations who have dared to boast of the insignificant ocean-barriers which they have succeeded in constructing. When, however, we search for the mighty hand that so easily does all this, we behold only a little insignificant worm, in substance little more than an animated clot of jelly. In itself how weak, how minute! but when its generations are considered, how past comprehension! and their industry how unsur-

passed! Whence these ocean-builders get their vast amount of materials, and how deftly they work them up, are equal marvels to the higher race of boasters, who have to delve for their poor pittances of wood and stone, and build *them* into homes with so much toil and such a taxing of skill.

"But in trying to make such comparisons, the sense of the infinite comes back, and to relieve the mental strain the shore must be revisited, where some one of its thousands of wonders can be picked up for inspection and admiration; and thus the heart will once more be calmed into devout serenity.

"Few who have paced the ocean-strands but have been arrested by the curious jelly-like, crystal masses so often met with, and not unfrequently elegantly fluted and frilled with ribbon-like tentacles. When stranded and dead they are rather repulsive objects, but watch the incoming waves, and the pains will be likely to be rewarded by a view of a living specimen of the jelly-fish, beautiful in shape and brilliantly iridescent, blending all the colors of the rainbow, and changing with every motion of the wave and glance of the sunbeam.

"These frail voyagers are often found of immense size, sometimes weighing even tons. They seem to possess bodies of quite a substantial character, but it is only seeming; for if left to decay in the sun, the largest will leave scarcely an ounce of earthy remains; they are, in fact, little more than organized water. In many parts of the southern seas these *Medusæ* are met with in vast fleets when the surface is calm and warm; but, extended as they may be, they seem to act by a common impulse, for, let but a chance cloud obscure the sun or a rough gust disturb the water, and the whole multitude vanishes in a moment. Beautiful and frail as they seem, if their graceful tentacles are meddled with, they have power severely to resent the affront by filling the hand of the disturber with a multitude of sharp stings that greatly irritate and inflame the flesh. From this propensity they have received the very appropriate name of *sea-nettles*. How wonderfully God provides the frailest of his creatures with weapons which make the strongest stand in wholesome fear of them!

"One of the most dainty sea-navigators is the delicate little *Cydippe*, but, being so minute

and shy, the careless observer is never rewarded by a sight of its beauty. It is about the size of a common marble; but to get a conception of its elegance there must be before the mind a globe of purest Bohemian glass, blending crystal and colors of the rarest brilliancy. To complete the splendor of its adornments it has two long and delicate filaments tasselled to the very tips. But, beware! attenuated as these appendages are, they have the stings of the larger members of their race, and know as well how to use them, as the fishermen often find when they have to clear their nets of the thousands which sometimes entangle them.

"Kindred to the last named, but larger and more elaborate in a mass of thread-like tentacles, are the *Physophora*, *Praya*, and several other beautiful members of the *Physalia*, but they must be passed without more special mention. They are wonders of very delicate construction, peculiar in habits, and will well repay a careful examination.

"Few objects on slight inspection seem less interesting than a piece of dull, lifeless sponge, but when its curious history is sought out, Nature has few greater marvels. It is the depopu-

lated city of millions of tiny and strange inhabitants. Found alive and bedded in its native sea-bottom, the *Spongia* is one of the great wonders of ocean-life. Soft as the texture of the prepared sponge seems to be, it is nevertheless made up of two very hard substances—silica and another closely resembling the horns of animals. The spicules of silica are marvels of shape and sharpness, and it is a wonder how they can exist in a substance so soft and flexible. Look carefully at a sponge, and it is found perforated with countless pores, every one of which was the home-dwelling of a living polyp, whose life-throbs made the spongy mass one enchanting scene of living fountains. Professor Grant, who paid special attention to the habits of this denizen of the sea, says: 'The beauty and novelty of such a scene in the animal kingdom arrested my attention, until I was obliged to withdraw my eye from fatigue.' And no wonder, for the gaze, once fixed upon such a phenomenon, feels the spell of an enchantment from which alone exhaustion of the power of the optic nerve could bring disenthralment.

"On the attractive claims of the sea-stars

many ample pages might be written and not exhaust the subject, and here but a small space can be devoted to them. Most of those who have visited the shores have had glimpses of some members of this family, though generally the most common and least interesting, the brown five-rayed star-fish, to which special description need not be given. The near resemblance of some of these sea-beauties to the china-asters and lilies of the garden has won for them the names of *sea-asters* and *stone-lilies*, and their beauty is such that it is no presumption to hold comparison with these favorite flowers.

"And this mention of floral resemblance leads to the notice of another family of the sea flora, the *Actiniæ*. Of these elegant objects the *Arborescent* and *Alcyonoidæ* are perhaps most striking. Conceive of two richly-striped or mottled vases, out of which branch and bloom a multitude of living floral stalks, now expanded in full glory, and now, on the least disturbance, retracted and securely hidden in the elegant basal receptacle!

"But why longer continue this descriptive catalogue of the wonderful and beautiful in the gardens and palaces of the sea? Visit the

shore when we may, and search the most secret chambers of the deep, or scan any drop of its measureless waters, and everywhere the testimony is explicit to the perfections of divine skill. If, when one is roaming through the walks of a well-kept garden, he should ask, 'Is there a gardener?' no reply would be given, but rather a look at the questioner to see whether he were sane or in earnest. And shall we tarry longer by the ocean-shore to argue the question whether it has works and ways that reveal the ever-abiding presence of a God? The waves would mock us for the folly of casting their pearls before such swine, and the dissolving jelly-fish, stranded on the beach, might boast more brains than one stupid enough to engage in such a controversy. Nay, nay; the great ocean-shore shall rather be our altar, the ceaseless ebb and flow of its waves the expressive symbol of our devotion, and the music of its swells the echo of our unceasing hymns of praise.

> 'The gentleness of heaven is on the sea.
> Listen! the mighty being is awake,
> And doth with his eternal motion make
> A sound like thunder everlastingly!' "

CHAPTER XII.

INTIMATIONS OF EDEN.

THE two young friends had become so deeply interested in the lessons of the sea that they felt little inclined to disturb their kind teacher or divert their own minds by discussing any plans to relieve the widow, and so they passed to their boarding-house with the matter deferred. Their conversation by the way, however, indicated that favorable results had been obtained.

"Lew," said Davidson, "I begin to get a clearer conception of the true purposes of knowledge. If material good and vain ambition are the only motives, of course the results must be delusive and unsatisfactory; certainly, they are not worth the time and toil necessary to secure them. But when the chief end of knowledge is to give to man a higher conception of his origin, powers, and destiny, by opening to his mind the divine purpose in his

creation, this is worth the labor and cost of the investigation."

"Well said!" was his friend's answer. "I think you not only 'begin to get clearer conceptions,' but have made great progress, and have got fairly out of the mists of your old hypochondriac philosophy. I begin to fear that your only drawback will be the necessity of trying to convert such a heretic as I must now confess myself to be, made so, mostly, by the cogency of your own reasoning; for, truly, Charley, many of your arguments were so strongly put that I could find no reasons for rebuttal, and so have accepted them as demonstrations."

"Well, Lew," was the reply, "if that is so, I am sorry; for it shows that you have far less wit than I gave you credit for. But, to put it in a more favorable light, it may be considered but another instance, going to show how much more ready the heart of man is to receive the silly ravings of some half lunatic than the soundest teachings of true philosophy."

"Thank you kindly," rejoined Rudolph, "for your excellent excuse for my recent conversion to your own faith; but, nevertheless, the facts

are as I have given them, so there is a chance for Doctor Dean to make a second convert; which I devoutly hope he may do before I become hardened beyond all redemption."

"Amen to that!" said Davidson, "and to the wish that we may both become wiser and better men."

With this interchange of views the young men separated for the night.

At the appointed time the usual company was again assembled, when Davidson opened the interview by saying,

"We suppose, Doctor Dean, from some slight hints which have come to our ears, that you suspect our connection with some aid rendered to the suffering family across the lake, and that, therefore, it is useless to attempt further concealment. If this be so, we would like to talk to you about some other steps which we contemplate taking in the same direction. And we do this as the most effectual way of keeping any similar transactions a profound secret from the recipients of our favors."

"True, Mr. Davidson," was the doctor's answer, "we had suspected that you were the

generous benefactors of the distressed family; but we respected your evident wishes, and our suspicions have been kept in the family. I believe that no one outside of our family has as yet got scent of the right track."

"We are glad to hear that," said Rudolph, "but we are more especially anxious that the Farleys should be kept in entire ignorance. Are you certain that they have no hint of our connection with the affair?"

"Certainly I can answer for that," said Milton, "for I was at their house to-day, and they were entirely at a loss to conceive who had so generously remembered them; they have an idea that some of their old friends in the East, who had known them in their better days, had sought thus to help them in their deep distress."

"We are highly gratified at this information," said Davidson, "and can now more freely open our hearts and purposes, but only on the solemn pledge of profoundest secrecy, especially enjoining that the objects of our aid shall never know to whom they are indebted."

"A pledge," said Doctor Dean, "which we most cheerfully give, and which I am sure will be sacredly kept by every member of my family."

"And you may be sure," interposed the sprightly Minnie, "that in doing so papa assumes a very grave responsibility, for, as all the neighborhood can testify, my tongue is very unruly and runs at both ends; and generally, when I am trying to carefully guard one end, the other lets the secret out."

"We shall have no fears," was the complimentary reply of Rudolph. "When the pledge of honor is given we are sure that the tongues of this family will be kept under perfect control."

"Well," was the bantering reply, "you are marvels of credulity, and I hope that nothing will occur to shake such extraordinary faith in woman's ability to keep a secret."

"I will give bonds," said the father as he smiled at the raillery of his daughter, "that your matters will be safe hidden if they are never made known until my daughter shall make them a subject of gossip."

"We have no fears of Miss Minnie," was the response of both the young men, "and ask no security for the safe-keeping of our secret by her."

"But now to business," continued Davidson.

"The matter that we just now wish to accomplish is to get the widow into more comfortable quarters before the winter sets in; and to help in part in this good work we have a thousand dollars which we wish to put into your hands to be used at your discretion in securing the desired end. We can do a little more if it should be absolutely necessary."

The young men could not fail to see the surprise and delight which this announcement caused, it was so unexpected and exceptionally generous.

"Let it be understood, Doctor Dean," said Rudolph, "that I contribute but two hundred of the sum which will be put into your hands."

"And let it also be understood," quickly rejoined his friend, "that in so doing you have made a greater sacrifice than I have, and so the credit-balance for benevolence is on your side."

"As the matter stands," interposed Doctor Dean, "I think there need be no discussion of comparative credits, for both have been so generous as to challenge the highest meed of praise.

"But now about fulfilling your benevolent

trust, a work which I undertake with the greatest pleasure. The matter which you have so kindly anticipated had occupied my mind more or less for weeks. A better home the poor family must have before the setting in of cold weather. I have had more than one inspection of a neat little cottage about half a mile east of the village. There is a comfortable house and about half a dozen acres of good land, ample for the widow's cow and garden. The price has been fifteen hundred dollars, but as the owner is a generous man, one of my most liberal members, one who has always taken a deep interest in the Farleys, I think that he will take much less, for the cash in hand, if purchased for the widow. Any balance which may be required above your generous donation I can easily raise. As a formal visit to the property might attract attention, and thereby lead to a revelation of your secret, my son will take you where you can get a view of the premises; and should you be pleased with the location, the purchase can be made with little delay."

"If you mean the little brown cottage just beyond the rustic bridge," said Rudolph, "we can give our approval now."

"That is the place I mean," replied the doctor; "and so that matter is settled. And now we will turn to our lesson. The circumstances which have detained us will furnish inspiration for the theme which we shall discuss; for we have had a little relish of the moral beauty of the original Eden, which will give us clearer vision to see in Nature some intimations of its pristine beauty.

"It is the natural order, stamped upon everything by Creative Wisdom, that the lower should minister to the higher, the material to the spiritual. When man was created the first want to be supplied was physical nourishment, and hence the Great Provider said, 'Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.' But the man nourished on this food was of the earth, earthy, and would be again resolved into dust, the substance from which he was taken, at once his tabernacle and his tomb. But the dissolving body was merely the dwelling-place of the soul, a God-like inbreathing that could be satisfied with no earthly pabulum; it must have angels' food—a

diet that would stimulate a spiritual nature and awaken emotions of devotion and love. Whatever of order and adornment the earth may have possessed before man's advent, they were not in a plane high enough to meet the cravings of his celestial quickening. The soul being of heavenly origin, something of its beauty and perfection was necessary to fill its spiritual longings; and it is hardly to be questioned that, in making provision for this supreme need, Jehovah took his pattern from 'the heavenly things,' and thus gave to the earth a similitude of celestial surroundings when he 'planted a garden eastward in Eden, and there he put the man whom he had formed.' His environment was 'every tree that is pleasant to the sight,' and 'the tree of life also in the midst of the garden, and the tree of the knowledge of good and evil.' When the Great Teacher blessed the earth with his presence, in order to bring man back to the lost Paradise one of his first lessons was to reimpress the moral sanctities of Eden: 'Consider the lilies of the field, how they grow;' and, making his teaching impressive, he contrasts this one glory of the field with the grandest of all human splendors: 'I say unto you, that

even Solomon in all his glory was not arrayed like one of these.'

"There is sublimity in a forest, and beauty in every leaf trembling in its contiguity of shade, but whatever of richness the primitive fields and unkept flowers of earth might have possessed, there was lacking a fitting ministry for man's moral nature until God retouched with a finer pencil and a diviner skill, and grouped the scattered glories of his hand within the gates of Paradise, and thus brought them under the enraptured gaze of Adam. Ever since that bright creation the truly quickened soul, above and clearer than the array of garden-splendors that charm and delight the senses, can discern the 'Lord God walking in the garden,' sanctifying its walks and receiving the incense of its blooming.

"The difference between field or forest and a garden consists in the careful supervision apparent in the latter, wherein the wild disorder of the former is controlled, and by a tasteful grouping of plants and flowers richer effects of floral splendors are produced. In this way, under the hand of man, the garden has become the richest embodiment of earthly beauty. As

a whole, it is without competition, and even a few cut sprays and stray blossoms are worthy tokens of love, and are held as most acceptable expressions of affection. What, then, must have been the wonderful perfection and superlative beauty of Eden as it first stood, fresh and complete from the hand of the Infinite One! Who can measure the fulness of the blessing conferred on Adam when God put him 'into the garden of Eden to dress it and to keep it'? So glorious was the place that the divine presence seemed to linger in its delightful shades; for the 'voice of the Lord God walking in the garden in the cool of the day' was heard, holding converse with the happy possessors of that bright abode. From that day to this a truly quickened soul can catch something of the same divine accents when meditating where flowers bloom and leaves murmur their soft cadences of praise. True, the site of the Heaven-planted Eden has been hidden from human observation, and the visible presence and audible voice of Jehovah are no longer recognized amid borders and bloom; but to a heart at all spiritualized such surroundings will ever bring thoughts of the lost Paradise and a sense of

the ever-abiding presence of the Lord God, whose power and skill alone could create such embodiments of wonder and glory. It is, no doubt, for this reason that a garden has been the sweetest solace in all ages to men of highest wisdom and sensibility. Though Solomon dwelt in a palace of ivory, and sat upon a throne of gold, and was surrounded by splendor, yet his heart longed for something fresher, purer—for something more glorious than could be fashioned by the skill of artisan and lapidary; and he turned to commune with Nature in a garden. He made 'gardens and orchards, and planted trees in them of all kinds of fruits.' In these employments he obtained a fresher blood and a purer inspiration than amid the flash and dazzle of golden courts and jewelled thrones and the obsequiousness and flattery of courtiers. The ambitious exile of St. Helena found a solace for his crownless head and humbled heart with hoe and rake among the flower-beds surrounding his island-prison.

"Kingly cares and blighted ambition have not alone found refuge and solace in floral communings, but good and holy men have equally shared in the benedictions of the gar-

den. It has eased their overtaxed brains and hearts, and brought back something of rejuvenation to mind and body when years have made the grasshopper a burden, and desire has failed, and all the daughters of music are brought low. Thus it was with Doctors Ide and Barnes, so long and well known in Philadelphia for their great learning and severe mental labors. When mental relaxation was needed they sought reinvigoration in the delights of horticulture, and in the sweet employment seemed to catch a new vitality.

"Not the least of the sad consequences of Adam's trangression is the inherited tendency to mental and moral long-sightedness, an overlooking of the wonders of creation which are scattered all around us, under the mistaken idea that the Creator was too stinted in resources to lavish on the world more than 'seven wonders,' and which, to be impartial, he must widely scatter. That spot of earth does not exist where God has not left some evidence of his skill, which can be overlooked only by the dull or careless. It would justly be supposed, however, that, of all the beautiful places on earth, the one which has received the special adorning

of Jehovah's hand would furnish the clearest evidences of celestial handiwork. What glory and beauty were enshrined in the Eden planted by the divine hand we may not imagine, but doubtless enough of its pristine splendors and perfections still remains on earth to indicate their character. From dulness of perception the Eden-like beauties of garden and greenhouse may pass unnoticed, but they are none the less present and fragrant with celestial odors. Let us not be so insensible, but pause a moment, before plucking a rose or a lily, to study the marvellous process of growth which has brought them to the perfection which so excites our admiration.

"A small black seed is dropped into the dull, moistened earth, and there, perchance, it remains through many months of winter and frosts, and, to all appearance, possesses no more vitality than the sluggish clods which cover it. The spring comes with its warm sunshine and rains, and now behold a quickening in the sleeping germ; and anon two little leaflets peep from the soil. The stock grows and leaves expand, but nothing as yet appears to distinguish it from the great sisterhood of plants; it is green

and luxuriant, and so are they. All vegetable growth is wonderful. It feeds mostly on air, sucking in the subtle carbonic acid gas, and by a curious alchemy building up forest and field. Like everything having life, its vitality comes from above through the genial rays of the great generous sun; and the outspread leaves of the grove and forest, like suppliant hands, set us the devout example that we should look upward to that realm from whence cometh every good and perfect gift.

"But turn again to the growing flower-stalk. On each spray-tip a green bulb has formed, as though Nature had but two pigments, brown and green, from which to draw its tintings. Do not be impatient; Nature draws her riches from no stinted resources, nor hastens to scatter her sweetness; her work is perfect, and will reach its climax in due time. Behold again! Those swelling buds have expanded into a glorious coronal of flowers, as though to rebuke the imputation that would limit the Holy One. Look at a garden thus dressed and adorned by the Infinite Hand. What glory, what variety, what gorgeous pencilling and splashing of dyes! Whence all this? The

same dull earth gives root-hold to all, and the same air bathes leaf and blossom. From what wonderful alembic is all this magnificence of coloring drawn? and by what marvellous pathways do these brilliant and strongly-contrasted dyes creep through these earth-soiled roots and brown stems to dazzle and blaze so wonderously? It is as though the Great Artist of Nature had buried a rainbow at the foot of each shrub and plant, and bid it crown with a halo of blossoms the plant which should grow above its earthly hiding; and each one springing thence seems to strive for the mastery in the distribution and arrangement of its treasury of colors. How gloriously the contest has been carried on! and still the prize awaits a victor.

"Is there any wonder surpassing the grandeur of a rich garden? or beauty that can outrival the splendors that dazzle and daze when perfection of growth has put the crown of floral glory on its beds and borders?

"Standing thus near the borders of Paradise regained, greeted by its fragrance and feasting upon its heaven-born arrayal, shall we begin to botanize, to distil stalk and flower, extract juice and aroma, to medicate the body and titillate

the senses? This may be done without profanity, but not now. When the higher lessons and purposes of the precious gift of flowers are understood, then it may be safe and proper to materialize them; but build the altar first, and worship the God who planted the first garden, and when man had forfeited his claim to the gracious boon, still, in his abundant mercy, left it possible for him to bring back intimations of the original Eden, where he might enjoy a sense of the divine presence. When the soul has been thus lifted upward and fed on celestial fruit, then, and not till then, erect the laboratory and extract the virtues of bark and petals, appropriate balm and spicery, and let the eye linger and the appetite feast on the dainties, which are but the crumbs of the spiritual banqueting.

"Those who are so much of the earth earthy as to fail of this spiritual discernment deserve, as much as did Adam, to be sent forth from the sacred precincts of a garden, banned against a re-entrance, lest they should again profane the sacred enclosure. These insensates are well deserving the fate imposed upon the original offender: 'In the sweat of thy face shalt thou

eat bread, till thou return unto the ground; for out of it wast thou taken.' Such grovellers always carry the scent of the earth with them, and can never get its dust sufficiently out of their eyes to see the natural beauty of their surroundings, much less to apprehend the divine radiance that makes a garden a gateway to the celestial Paradise.

> 'Bright and glorious is that revelation,
> Written all over this great world of ours;
> Making evident our own creation
> In these stars of earth, these golden flowers.'"

Knowing the antipathy of his young friends to any questioning about personal religion, Doctor Dean had carefully avoided such appeals, hoping in the sequel to gain his point through the moral force of his teachings. The events of the last few days, however, had led him to conclude that a more direct step might be taken in that direction without harm. With this purpose, after the conclusion of his regular conversation, he asked the young men if it would be disagreeable for them to remain until after the family devotions; and being assured that it would not, the usual preparations were made

for the delightful service. Miss Ella took her place at the parlor-organ, and, after running over some sweet chords as a prelude, tenderly started off with "Almost Persuaded;" and as the whole family joined with their well-trained and harmonized voices, the effect was deep and impressive. After this the eighth chapter of Second Corinthians was read with some comments, showing that the extreme poverty which calls forth our deepest sympathy and promptest relief is nothing compared with the spiritual poverty that involves the entire race of Adam. To relieve the poverty of our suffering neighbors costs us but the sacrifice of a small portion of our earthly goods, but to take us out of our miserable estate made large demands on both the grace and treasures of our Lord Jesus Christ. To those who accept the proffered goodness he makes a transfer of his infinite riches. Strange that any human being should ever hesitate for a moment in accepting so divine and dearly-bought a treasure!

In the prayer that followed it was fervently urged that the joy which had lately been experienced in relieving extreme poverty might bring to all a clearer apprehension of the marvellous

grace of God—the only one entitled to be called GOOD, because he alone is ever doing matchless deeds of grace. "We give but a few dollars, but he gave his only-begotten Son. We see the extreme poverty of our neighbors, and find ourselves more blest in the giving than they are in the receiving. We are disposed to say that we 'are rich, and increased with goods, and have need of nothing,' and know not that we are 'wretched and miserable, and poor, and blind, and naked.' Teach us to know our poverty, and where true relief can only be found."

The occasion was a solemn one, and the prayer was urged with all earnestness and unction. At its conclusion nothing was said beyond a hearty "good-night" as the parting grasp was given.

The young friends walked home in silence, each pondering over his own thoughts, but we are not yet deep enough into their secrets to set forth their meditations, and must leave events to unravel the mystery.

CHAPTER XIII.

GREAT MORAL LESSONS FROM INSECTS.

WHEN again convened in the familiar library-room at the parsonage, Doctor Dean said, addressing his young friends:

"It will no doubt be of interest to you to learn that the cottage has been secured for the Farleys. As I had supposed, the owner readily accepted twelve hundred dollars if purchased for the widow, and I found no difficulty in raising the other two hundred necessary to make up the amount. The papers will soon be drawn, and in the mean time several of our mechanics have agreed to make some necessary repairs, while the kind ladies of the neighborhood are meeting with good success in an effort to give the house a plain furnishing before the family is moved into it. You have the satisfaction of knowing that your kindness to the poor has awakened a general feeling of liberality in

the neighborhood. It has been thought best to give no intimation to the family of what is being done until all things are ready to place them in possession of their new home; but as you have been the most liberal donors in this movement, it has been thought only fitting and proper that we should ask your opinion on the subject, with the assurance that any suggestions which you may have to offer will be cheerfully accepted in the final arrangements."

"Thank you," was Davidson's answer; "everything is as we would have it if we can pass unsuspected in the matter."

"Thus far," was Doctor Dean's reply, "you are all right—a fact which, perhaps, will not increase your respect for our gift of penetration. When pressed for the names of the kind friends who have mainly aided in making this purchase, I have replied that I was not at liberty to give names, and could only state that the funds came from friends of the family who resided at a distance. On this information the neighbors have generally accepted the conclusions of the widow, that she is indebted to some of her Eastern friends who knew her in better days."

"All this is very well," said Rudolph, "ex-

cept in one respect. As we have not as yet been publicly identified with any kindness shown to the poor family, the friends will form but a poor opinion of us if we shall leave the neighborhood without in some way doing something for their relief. To avert such a judgment, and at the same time aid in keeping the public from penetrating our secret, I have thought that it might be better for us to pay another visit to the family and make some public show of aiding them."

"A very good idea," was Mr. Dean's answer, "and one which I had thought of suggesting. You and Milton can arrange a visit to suit your convenience. And now to our study:

"In our last lesson we were occupied with the lingering beauties of Eden, and now we pass from the pleasing contemplation to look at the insect world, and see if we cannot discern a beauty of form and fitness of purpose to justify the wisdom of the creation of this order of creatures. The insect kingdom is one of the most numerous, as its purposes are the most involved, of the whole round of creation. On

every individual of the almost endless variety God has put the imprint of his matchless skill, but when their claims to usefulness are examined, the verdict is sometimes against them from the facts most open to observation. Perhaps in this very aspect we get a key to their true economy in Nature: their obscure and humble labors are well fitted to teach us important moral lessons. Lest we should fail in our dulness to learn what they are adapted to teach, God himself has more than once directed special attention to them: 'Go to the ant, thou sluggard; consider her ways, and be wise.' Let us take this divine hint, and perhaps we may gather some choice grains of wisdom in the search; a wholesome fear is the first step toward a true obedience.

"Ever since this divine proverb bade man go to the ant and gather wisdom from her industry and provident ways, the pertinence of the exhortation has become more and more emphatic by every renewed and close study of her habits; and so, from that day, now more than half a century past, when my entire hours were spent, in preference to indulgence in youthful sports, prone and with chin resting on the

hands, watching the curious activities of an ant-colony, these insects have been special objects of wonder and delightful study. Year by year some new and deeply-interesting fact was added to the stock of knowledge respecting their strange habits. Thus it has been ascertained that they build houses, make slaves, keep cows, fight battles, conquer adverse kingdoms, live in the fiercest heats possible for animal life, are frozen into cakes of ice, and come forth when thawed with unchecked vitality, and show many other marvellous phases of life. For a time it was thought that the sum-total of their history had been completed; but no, it was a very grave mistake, as the following sketch, published in a late number of the *Journal of Science*, will prove. The writer says:

"'Among the *Hymenoptera* the lead is undoubtedly taken by the ants, which, like men, have a brain much more highly developed than that of the neighboring inferior groups. Perhaps the most elevated of the *Formicide* family is the agricultural ant of Western Texas. This species is, save man, the only creature which does not depend for its sustenance on the products of the chase or the spontaneous fruits of

the earth. A colony of these ants will clear a tract of ground some four or five feet in width around their city, and remove all plants, stones, and rubbish. A species of minute grain resembling rice is sown therein, and the field is carefully tended, kept free from weeds, and guarded against marauding insects. When mature, the crop is reaped, and the seeds dried and carried into the nest. If this is done near another colony, the latter regard it as an intrusion, and a fierce warfare results, which ends in the total destruction of one or the other side.

"'The Texan ant removes any offensive matter placed near its city, and carries it away. Ants who refuse to work are put to death. Prisoners are brought in by a fellow-citizen, and handed over in a very rough way to the guards, who carry off the offenders into the underground passages.

"'Instances of sagacity and design might be easily multiplied. Careful observation has shown that the ants are improving as fast as their short term of life will permit them. They are becoming more wise and more civilized yearly. Each century marks advance. Who knows but that perhaps in the dim future they

may assert rights which human beings shall be bound to respect?'

"A late writer in the *Popular Science Monthly* says:

"'Let us suppose that, having no previous acquaintance with the subject, we were suddenly informed, on good authority, that there existed in some part of the globe a race of beings who lived in domed habitations, aggregated together so as to form vast and populous cities; that they exercised jurisdiction over the adjoining territory, laid out regular roads, excavated tunnels underneath the beds of rivers, stationed guards at the entrances of their towns, carefully removed any offensive matter, maintained a rural police, organized extensive hunting-expeditions, at times even waged war upon neighboring communities, took prisoners and reduced them to a state of slavery; that they not merely stored up provisions with due care, to avoid their decomposition by damp and fermentation, but that they kept cattle, and in some cases even cultivated the soil and gathered in the harvest. We should unquestionably regard these creatures as human beings who had made no small progress in civiliza-

tion, and should ascribe their actions to reason. If we were then told that they were not men, and they were in some places formidable enemies to man, and had even, by their continued molestations, caused certain villages to be forsaken by all human occupants, our interest would perhaps be mixed with some little shade of anxiety lest we were here confronted by a race who, under certain eventualities, might contest our claim to the sovereignty of the globe. But when we learn that these wonderful creatures are insects some few lines in length, our curiosity is cooled; we are apt, if duly guided by dominant prepossessions, to declare that the social organization of these beings is not civilization, but at most quasi-civilization—that the guiding principle is not reason, but instinct or quasi-intelligence, or some other of those unmeaning words which are so useful when we wish to shut our eyes to the truth. Yet that ants are really, for good or evil, a power in the earth, and that they seriously interfere with the cultivation and development of some of the most productive regions known, is an established fact.'

"These latter statements may be rather

strongly put, but there is enough of reality established in the history of ant life to give probability to their approximate truthfulness, and certainly sufficient to stimulate continued and closer observations in this department of natural science.

"Another class of *Hymenoptera*, the bees, are equally interesting objects of study, and somewhat similar in habits, and far more profitable, as they furnish one of our table luxuries in the rich stores of honey which they gather from the gardens and fields. But as the habits of these useful servants are generally better known than those of any of their compeers, detail is not necessary. They are wonderful architects, exact geometricians, skilful chemists, and patterns of industry and political economy. Surely, there is not only sweetness in their well-stored honeycombs for the palate, but richer lessons of wisdom for the devout mind in every study into the manner and thrift of the home of the bees.

"If there is desire to observe the grotesque in Nature, the walking-leaf will furnish a rich subject of investigation. Should this strange creature not meet the demands of curiosity,

then turn to the mantis family, and observe the odd camel cricket, or hunt up a specimen of the wingless *Phasma*, or walking-stick. In these grotesque figures it will be evident that Nature has a rich sense of the humorous in working out her adaptations and purposes.

"Who but has listened curiously to the garrulous evening tattle of the katydid, that noisy harbinger of frosts, ripened nuts, and apples? Beguiled by its saucy notes, if one has been persevering enough to search out the hidden gossip, its pair of green wings and the richer twain beneath, and its curious manner of vocalization, have abundantly repaid for the diligence.

"The familiar grasshoppers—or, more properly, the locusts—are known to all in all lands. With their gauzy wings richly striped, and their many interesting habits, the study of them is not without deep interest; but time will not admit of extended description here.

"Alas! the rose has its thorns, the bee its sting; and so all that is wonderful and beautiful is hedged about with cautions to quicken our sensibilities. What more seemingly harmless than the insignificant curculio or weevil, Colorado bug or army-worm? But how terrible

they may become in fact, the blighted orchards and desolated fields of vast regions of our country have borne fearful testimony. They have sent the inhabitants of some of the most fertile sections to beg food for their starving families, and we have been severely taught to fear what once only attracted a curious notice.

"The red-legged locust of the West is another of those apparently innocuous insects that go forth in hosts. Who would suspect any great danger from such an innocent-looking creature? Ask this question of the despairing, starving Kansas and Minnesota farmers; nay, the question need not be asked, for the memory of their pathetic appeals for bread to feed their perishing children is still fresh. Their cries for help have made the world acquainted with the power to scourge possessed by these dreaded swarms of insects. From the lips of one of these many sufferers the following graphic tale was heard:

"'In the morning I was surveying my most abundant promise of a rich harvesting, devoutly thankful that I had escaped the dreadful calamity which had fallen upon some other portions of the State. I had ample promise of

plenty for my own wants, and enough to spare in generous supplies to the afflicted ones—a thought which gave me great pleasure. Alas! how soon the vision changed! About the middle of the afternoon a sudden dimness appeared in the north-west, which I at first mistook for a rising cloud. Anon, it grew darker and darker, and came on apace with the noise and gloom of a thunder-cloud; and, alas! with more fatal effects than had ever followed the rush of the hurricane. It was the terrible army, or rather the living storm, of grasshoppers. The cloud was so vast and thick that the sun was obscured, and fate so ordered that they should settle upon my promise-burdened fields. They covered the ground in such numbers that they could be shovelled up as one would shovel grain. All weapons were powerless against such a foe, and we could only seek shelter from personal harm, and despairingly witness the destruction of all our hopes; and a completer ruin was never inflicted. When another morning returned nothing remained of the rich promise of the day before; all was gone, stalk and branch, leaf and ear, and my fields were as bare as the bleakest desert of Arabia.'

"This sketch is but a repetition of scores of instances of the sweeping desolation left behind these winged messengers of destruction. It is the story graphic as of old, when the 'locusts went up over all the land of Egypt, and rested in all the coasts of Egypt; very grievous were they;' and 'they covered the face of the whole earth, so that the land was darkened, and they did eat every herb of the land, and all the fruit of the trees which the hail had left.' Look at this terror of the East, and he seems wholly incapable of compelling history to put on record such a fearful testimony of his deeds. Indeed, the page that sets forth his conquering flight over Egypt is not sufficiently graphic in picturing his devastations, and so the mouth of prophecy pauses in its foretelling to give the fitting embodiment of this winged terror. In all the settings forth of divine wrath there is nothing more terrible in descriptive strength than the reference to the scourge of locusts in the second chapter of Joel: 'A day of darkness and of gloominess, a day of clouds and of thick darkness, as the morning spread upon the mountains; a great people and a strong; there hath not been ever the like, neither shall be any

more after it, even to the years of many generations. A fire devoureth before them; and behind them a flame burneth; the land is as the garden of Eden before them, and behind them a desolate wilderness; yea, and nothing shall escape them. The appearance of them is as the appearance of horses; and as horsemen, so shall they run. Like the noise of chariots on the tops of the mountains shall they leap, like the noise of a flame of fire that devoureth the stubble, as a strong people set in battle array. Before their face the people shall be much pained; all faces shall gather blackness. They shall run like mightly men; they shall climb the wall like men of war; and they shall march every one on his ways, and they shall not break their ranks; neither shall one thrust another; they shall walk every one in his path; and when they fall upon the sword, they shall not be wounded. They shall run to and fro in the city; they shall run upon the wall, they shall climb up upon the houses; they shall enter into the windows like a thief. The earth shall quake before them; the heavens shall tremble; the sun and the moon shall be dark, and the stars shall withdraw their shining: and the

Lord shall utter his voice before his army; for his camp is very great; for he is strong that executeth his word; for the day of the Lord is great and very terrible; and who can abide it?'

"In this extract it is seen that language, even under the impulse of inspiration, labors to set forth in proper terrors the judgment that Jehovah can execute by the use of these feeble insects; and he must be a dull pupil who fails to comprehend the great moral lesson. Singly, the locust is but a 'feeble folk;' but when chosen by Jehovah as his army of vengeance, invested with omnipotence, and marshalled by the Almighty One himself, verily, 'Who can abide it?'

"Certainly, this aspect of insect life will show that God can use the most insignificant thing to embody the grandest and most awful of his attributes. If man is so brutish as not to recognize the wonders of his hand in structural forms and gracious adaptations, he can arouse him from his dulness by showing through the neglected and misunderstood work the guilt of his insensibility.

"The locusts, like all the creations of God, have a benevolent end to serve. In many parts

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of the great East where vegetation is quite unknown, or is of so stinted a character as to afford no help to the wandering tribes, the clouds of these insects come with gladness on their wings. Finding nothing in the desert to eat, they are eaten themselves by the hungry Arabs, and are hailed with shoutings of gratitude to God and his Prophet.

"Truly, God can teach great moral lessons by very humble agencies; and let us beware lest the insignificance of the agencies should hide from our eyes the Infinite One who thus employs them. They go forth with the weapons of Omnipotence when God bids them march forward as his 'army with banners.'

"From the recent and almost miraculous appearance of some of these insect monitors, and the fearful admonition which they have given us of their power to inflict harm, we may infer that God has an occasion of controversy with us, and it will be well for us to hear the 'rod, and who hath appointed it,' for God does not admonish for naught, nor suffer his warnings to go unheeded. In our moralizing over past judgments we may forget to turn from our own evil ways.

"It seems to be a natural and almost a universal sentiment to hate bugs, and shrink from them with more or less of loathing and dread. And truly the horrid odor which most of them shed around, and the equally repulsive shapings of some of them, as the Goliaths, the *Scarabæi*, and the stag-beetles, are at least a strong justification of this feeling toward them. But who that attended the great Centennial Exhibition, and was held lingering for hours among that marvellous collection of Brazilian bugs, but was forced to reconsider his strong verdict of condemnation? We thought not of the detestable odor, their crawling offensiveness, and relentless ravages, in our astonishment at their unexpected and dazzling brilliancy. Perchance we had just crossed over from Tiffany's incomparable collection of diamonds and precious stones, with the eyes yet dazed with their splendors, and when it almost seemed profane to look at anything else. But in the presence of that insect jewelry no shock of transition was felt; the Brazilian bug was a worthy competitor with Tiffany's diamonds—as brilliant in color and iridescence, if not an equal in hardness of texture and moneyed value. As orna-

ments they were unsurpassed in beauty and brilliancy; and doubtless had it not been for the powerful influence of old prejudices against the whole insect tribe, the exhibition of this splendid collection would have led to their general use for purposes of adornment. But the sentiment against them was too strong; and it is to be regretted that most of that rare exhibit was carried back to the land from whence it came, and we can only remember it as a bright vision that has passed from our beholding. It is to be feared that the only permanent effect of this brilliant display has been to make us loath more our own comparatively homely native bugs. Let us not, however, be unjust even to a bug, much less to those—and we have many—that possess worthy claims to our admiration. Even the common brown squash-bug is not without points of attractiveness. Though quite sombre in color, yet its nicely-adjusted wing-covers and the gauzy pair so deftly folded beneath may challenge admiring observation. But, differ as we may about the attractions of this bug, there will be no question as to the rich arrayal of the well-known cabbage-bug, as all who are accustomed to raise

this common vegetable can testify. Its shape is not ungraceful, and the wings are strikingly beautiful; but it should be only looked at, not meddled with, as its odor is most nauseously offensive.

"If, indeed, the familiar lightning-bug is without other attractions, he makes himself nightly welcome by his singular powers of illuminating the darkness around him; and we could sooner spare a more brilliant insect than miss his yearly return to flit and glow and make radiant the landscape.

"Nature does not seem to delight in broad contrasts, but takes the observer by gentle transitions from the kingdom of one order into the dominions of another; and it is by such a gradation that we pass from the bugs to the *Cicadæ*. In their larval and pupa states the careless would be likely to class them among the former, but when fully developed their marked differences are clearly apparent, and they are seen to come nearer to the great and terrible family of the locusts, by which name, indeed, they are most generally known. But look at this specimen of the class, and it will be plainly seen that they have many individual characteristics.

In mouth, eyes, shape, and wings this insect is strikingly peculiar, and equally so in habits and its manner of vocalization, which every one is familiar with. Though the minstrelsy of this insect is somewhat rough and monotonous, let us not disparage the poor harper, for his free, active life is but a short one, being limited to a few weeks of summer sunshine, and he seems to fill up the moments with song, in order to make the most of their brevity.

"In his unique green corslet and gauzy wings he is no ordinary creature to look at, and, being comparatively innocuous, his presence is not so repellant as that of some of the species.

"There is a near kinsman to the above, however, of whom so favorable an account cannot be given—the well-known seventeen-year locust. Much less gifted in personal attractions, this insect would claim little notice were it not for the remarkable fact attendant on its reproduction, and from which it has derived its name; and for the great destruction which is perpetrated during the short active existence of the new crop. When the long period of earthly incubation has passed, and the woods and fields are infested by the immense swarms of perfect *Cica-*

dæ, the harsh noise of their tiny drums fills the air with a continuous din. Soon the trees are draped in dead branches and foliage, as though a fire or an untimely frost had done its work of destruction. This devastation is caused by the new deposit of larvæ; they remain, however, but a short time on the trees. When mature they drop to the earth, and bury themselves for their long sleep of seventeen years. A terrible period, surely, to be swaddled in so dark and dismal a cradle, but it proves a safe one; for, prompt to the year, they come forth to render their turn of service in propagating the strength and glory of their ancestors.

"The first opportunity for observing this strange phase of insect life occurred to me in 1860, in Atlantic County, New Jersey, where the 'locusts' filled the woods for many miles with noise and blighted branches. In passing through the infested district they were exceedingly annoying, not only exciting almost to madness our horses, but, by a persistent invasion of the carriage, crawling over our persons, until our curiosity was quite overbalanced by the torment which they inflicted. This circumstance caused a careful note of the date to be

made, and the allotted period for their return was anxiously waited for. It came at last, and, true to their traditions, the new swarms of *Cicadæ* put in their appearance, and the question of their ability to fulfil the conditions of their perpetuity was fully verified; they were indeed seventeen-year locusts!

"Late one autumn a large leathery sack was found hanging to a slender branch of a lilac-bush. It was no strange or unknown sight, as it was at once recognized as the winter home of a chrysalis of some Lepidopteran; its enormous size was what attracted special notice. The sack was of a dingy brown, and much resembled the flesh side of a piece of hemlock-tanned sole leather. It was about five inches long, pear-shaped, and securely attached to the limb. It may be inferred that the object was watched with great solicitude during the long months of winter, a season which proved to be of unusual severity. The cold was excessive, the thermometer several times falling below zero, and varied by occasional storms of sleet, during which the swinging habitation was thickly encrusted with ice, causing much fear lest the sleeping pupa within should be destroyed.

There was no little anxiety, therefore, as to the result when the warm spring days returned. Would the long and carefully-watched cocoon prove the shroud of the embryo within? or would it bravely endure such severe trials, to come forth and prove what a giant of the Lepidopteran race had been safely rocked through such rough inclemency? At last the hour of decision came, and, much to the delight of the anxious watcher, the result was all that could wished. Creeping from its wintry cerements, a magnificent moth, known as the *Atticus Prometheus*, came forth—a giant of his tribe. When this splendid insect reached perfection it measured seven inches across the wings, a much larger specimen than had ever before come under the notice of the observer. It was, indeed, a splendid creature. Its long plumy antennæ, soft velvety wings exquisitely variegated, and gaudily-ringed body made it a fascinating object, and one that has not tired inspection yet, for it is now before our eyes in this glass case, and is 'still beautiful in death.' Alongside of it is the deserted mansion in which it so safely passed through the months of that dread winter. After the escape of the moth

it was carefully examined. In texture it is as strong as leather, and bears no small resemblance on the interior to the hair side of a piece of polished morocco. It is perfectly impervious to water, and has a soft padding between the outer and inner surfaces, after the manner of a comfortable or quilt; and altogether it furnishes a remarkable instance of special adaptation which only a divine mind could devise and consummate.

"The death's-head moth has very much the same history as the last named, which need not be repeated. The peculiar differences are in form and adornment, from one of which characteristics it takes its name. Turn the head of the insect upward, and a striking resemblance to a human face will be readily recognized between the upper pair of wings. Harmless as the creature is, this singular mark, combined with its peculiar notes, has been sufficient to inspire the ignorant with great terror, for they regard it as the dread harbinger of contagion and death.

"The moths constitute a large family in the insect kingdom—a fact which can be easily proved. All the moth tribes are peculiarly

active at night, and by opening a window and giving them access to a light, abundant specimens can be soon gathered. Especially will the smaller varieties be seen buzzing around the blaze in annoying swarms, scorching their wings by repeated contact with the flame, one experience not being sufficient to teach them wisdom. This stupidity has pointed a moral for those who are disposed to run rashly into danger. As many as fifty different species have been gathered around a single evening lamp; but, to make the experiment more thorough, build a small fire in an orchard during some mild summer night, and the observer will then find abundant specimens of the moths infesting the neighborhood. They will be seen coming from every direction to meet their doom in the flames, into which they fly directly. The silly moth is a proverb in the mouths of the higher race, whose folly, however, often surpasses that of the poor insect, that might aptly retort, 'Silly man!'

"A great many varieties of these insects are found in the United States, and many of them are of rare beauty; but in warmer climates a much richer catalogue can be made; and even

in Europe there are some exquisite specimens of which we cannot boast, as the herald and many-plumed moths, and other beautiful compeers.

"But some of these insects have an interest beyond any curiosity of structural organization or peculiarity of habits; they have a rich commercial value. Some for their rarity command very high prices, as much as seventy dollars having been paid for a single specimen. Some are highly prized for their rare beauty, as was seen in the grand Centennial Exhibition; others for their great value in meeting some pressing need, as the cochineal insect for the rich dyeing matter which it furnishes, and especially the well-known silkworm. Princes and peasants are alike indebted to this humble moth for their richest array; and the annual contribution of these insects to human wealth can hardly be estimated. The fate of some nations is almost dependent on the successful industry of these patient spinners of downy wrappings for their descendants, but which are diverted to serve that purpose to the dominant race of man.

"'It is only a bug' is an expression often heard, as though it were destitute of any value

or consideration whatever, and only to be thought of simply in the light of a pest, and significant for the great annoyance which it causes. Our slight study of entomology has been quite sufficient to reverse this hasty and ill-considered verdict. When we trace out their curious habits, consider their rich array, their immense numbers, and the ruin which they can inflict, we can well exclaim, 'Great is the kingdom of bugs!'

"But here we may pause, for our end has been attained. Bug and moth have brought us into the presence of the Infinite One, who has often been pleased to make these poor weaklings bear witness to the power of his own omnipotence. With this lesson vividly impressed on the mind, let us not exhibit the grovelling habits of the one, ever crawling in the dirt, nor the silly stupidity of the other, burning ourselves by the very light which was set to warn us of danger and make us see the way of safety.

"Trusting that we have a better understanding of Jehovah's creative wisdom from our study of some of its less obtrusive forms, I wish you good-night."

CHAPTER XIV.

BLOSSOMS OF THE AIR.

ON the next resumption of his conversation Doctor Dean said :

"I have already intimated that the great Divine Architect in his world-building and adorning does not introduce sudden and broad contrasts, but incites us to climb the beautiful ladder by making each step a fitting transition to the next above. This is especially to be noted as we pass from 'creeping things' to those beautiful aërial wonders that 'fly above the earth in the open firmament of heaven.'

"As we were watching bug and beetle the attention was arrested by many curious worm-like creatures crawling over branch and leaf or measuring their way by alternate outstretchings and contractions. Judged from their appearance, they seemed to belong to the grovelling things that cleave to the dust ; but as we watched

their progress we saw miller and moth burst from these loathsome cerements and float away in forms so beautiful that we called them 'blossoms of the air.' Enticed by such brilliant apparitions, it will not be unwillingly that we try in this lesson to interest ourselves in these aërial wonders. In striving to keep in view this gorgeously-arrayed monitor we shall doubtless find our feet on a higher round of the ladder than any which we have yet succeeded in reaching—

> 'The beautiful blue butterflies,
> That flutter around the jasmine stems
> Like wingèd flowers or flying gems.'

"As we consider this subject, our eyes may glance from time to time at a case of butterflies wherein fifty markedly different species are represented. And such a picture of exquisite shapes and rich coloring on a soft velvet background can hardly be found in any other living combination, except it be an equal number of humming-birds. But if these tiny birdlings can match the butterfly picturing, they cannot come into competition with the marvellous progress of Lepidopteran life—three stages so unique and seemingly

so antagonistic as almost to stagger belief, even when all the facts have been verified and the glorious result is floating before the enraptured vision.

"In the beginning of this beautiful life there is found glued to some limb, or hidden beneath a sheltering bark or leaf, a cluster of minute eggs. In due time there issues from one of these germlets a caterpillar or worm-like creature, smooth, hairy, or bristled as the species may be. This larva is curiously furnished with two sets of legs widely differing in form and manner of use. One set, always numbering six, are placed near the head, and are armed with sharp hooks or claws, and are the true legs, preserved through all the subsequent changes. The other legs are at the anterior part of the caterpillar, and vary from two to ten in different species. A large space is generally left between these sets of legs, so that the worm in moving alternately uses them, causing a bending upward of the body as the anterior pairs are brought up to the forward ones. The supernumerary legs sometimes have a sucker-mouth, thus enabling the creature to adhere to smooth surfaces with more or less tenacity; but more

often the foot is encircled with a row of sharp hooks, that under the microscope have a most formidable aspect. In this somewhat repulsive form the caterpillar is known to everybody; and generally the more beautiful the coming butterfly, the more repellant the worm. Look at this, one of the smallest and least offensive, and yet large enough to repel any close acquaintance.

"To one unacquainted with the wonderful life of the butterfly, this poor crawler would be little suggestive of the brilliant life of which it is the prophecy, and which, on fulfilment, is seen floating through the air and feeding on the nectar of flowers. But let us be more observing, and see if the asserted fact can be verified.

"In watching the progress of the humble larva, he is seen to doff his outer wrappings for a number of times with little or no change in form or markings; but by and by some new movement is evidently approaching. The poor worm becomes dull, loses color, and seems to be perplexed. After some hesitation it spins a cocoon or a few silken threads, and wraps itself in its self-made cerements, or hangs itself with the cord of its own spinning head downward,

and waits for the time when its change shall come. In this state of expectancy the embryo beauty remains sometimes for months; the active and greedy worm has become a dull mass of almost lifeless matter, passive, motionless, taking no nourishment, and shut out from the very atmosphere in which the coming life is to find its chief vitality and display. Swinging by its silken cord or wrapped in downy swaddlings, the allotted time is passed, but finally and surely the hour of happy deliverance comes. The shell of the chrysalis opens on the back, and soon there emerges the new creature, seemingly astonished at its strange surroundings of life and sunshine. The wings are at first moist and somewhat crumpled, but they soon expand and dry, and the young blossom of the air is ready for its short and beautiful life. The false legs are gone, with bristles and mandible jaws, and in their place the glorious investiture of wings, antennæ, and long proboscis are given; from gnawing leaves and wood, and dieting on cabbage or poisonous nettles, the insect now begins its banqueting on honey from roses and clover. A wonderful transition both in form and modes of life!

"When fully invested for its new sphere, the butterfly first proves its gauzy members by a few gentle openings and foldings, and then, with a joyous spring, floats away to bask in the sun and sip its dainty meals, the loveliest creature in a summer landscape.

'Lo! the shrouded thing,
Loosed from its earthly covering,
From shape uncouth and dusky hue,
Like some fair vision springs to view.
A glossy wing in burnished pride,
Unfolding, rises from each side:
It is a butterfly as bright
As ever sparkled in the light.'

"No wonder that a beginning so unpromising, a manner of progress so paradoxical, and a consummation so exquisitely brilliant should furnish themes for abundant moralizing and apt comparisons. The analogies to human life need not be redrawn, as they are too common to be unknown by the ordinary observer; but the rich instructiveness, leading to a clearer knowledge of the handiwork of God, must not be overlooked, as the lesson cannot be too often enforced, and the golden text now before the mind is,

'The Hand that made us is divine!'

"If an attempt should be made to paint the rich arrayal of the fifty varieties of these gaudy insects under inspection as we study this lesson, volumes would be required to do them justice. It may be that some other shade or combination could be devised, but it would border on the remotest edge of possibility. Take the peacock butterfly, for instance, which can be but partially reproduced even by a skilful artist, and mark the rich combinations, all laid on a ground of the softest velvet. Glance now at the striking contrast as seen in the purple emperor. How dainty the richly-scalloped wings! but no pencil can give them that splendor of iridescence which is their chief glory. How it sparkles and plays among those bright colors as the light touches and glances over the wings when spread out in the sun, or gently sawing the air as the insect settles on the flower or floats gaudily by!

"The *Leptocircus*, with its long wing-projections, is equally striking, and is the brilliant representative of a splendidly-endowed family. Nor is the little *Vanessa* to be passed by or despised. Its colors are less striking, but they are so softly blended and velvety as to win admir-

ing notice. The elegant tortoise-shell varieties are associated with this beautiful insect, and are very attractive objects to view.

"Turning now to another group, the first that holds attention is the *Papilio turnus*, a rare beauty. This splendid creature belongs to a gorgeously-decked family, members of which are found in all sections of our country. Besides the one shown in the group, there are two others for inspection, on whose wings are traced the most elaborate adornings. The general color is a blackish-green, with pale golden shield and crescent-shaped blotches, with spots of amethyst and blue, and all flushed with that peculiar iridescence which distinguishes the butterfly races. These aërial beauties are plentiful in the meadows and fields of New Jersey, where one may while away many a delightful hour in watching their flights and admiring their beauties.

"The last of these animal blossoms which will be mentioned is known as the Camberwell beauty, and is eminently worthy of the reputation it enjoys. The wings are mainly covered by a soft, dark-purple velvet, bordered with golden lacework, and spangles of blue and black

settings. It is regarded as the chief glory of British butterflies, and has representatives in America that worthily keep up the reputation of their Transatlantic compeers.

"What has been stated only gives a glance at that part of butterfly life and adornment which meets the common observer, and, though wonderful, is not the whole of the curious history of these insects. In the Lepidopteran order the microscopist finds one of the most attractive fields for his researches. Passing by the visible splendors, vivacity, and paradoxical life of these airy voyagers, let one of the many hundreds be taken, and the mealy dust from its rainbow wings is a world of enchantment when placed under the glass of the instrument. The gaudy wings are thus found covered with symmetrically arranged scales, like the tiles on a roof. These scales bear a striking likeness to the petals of flowers; they are rounded, lance-shaped, serrated, and forked, and of all possible hues, which they blend and give back by a power of iridescence peculiarly their own. There is all the dazzling richness of a collection of the most precious stones, gold, silver, ruby, sapphire, emerald, and opal; and how they

sparkle and flash, until one is almost persuaded that there are really so many living rays blazing and corruscating over that minute field of glory! What marvels of splendor are clustered on the wings of the peacock or the Camberwell butterfly! and what a long task it would be to study all of these hundreds of airy wing-bearers and see all the glories enamelled on their gaudy appendages! Looking over the fifty brilliant specimens now at hand, and attempting to grasp the grand sum-total of splendors, the mind becomes oppressed with the effort.

"And what is the impression made while lingering over the dust of a butterfly's wing? One who has ever entered into this invisible world of beauty must have felt, with a force unknown before, the moral lesson which the Saviour teaches when he says, 'The hairs of your head are all numbered.' The God who watches over our steps and leads us by the hand shows his omniscience and minuteness of care by thatching with hundreds of scales a butterfly's wing, and by touching each one with the richest dyes of his palette. Each tiny scale is hidden from unaided observation, but the whole number are so blended as to

form a thing of beauty entrancing to the beholder.

"So the hidden workings of Providence come to us. The little event that touched us away back yonder in life, and so lightly as not to attract our notice, the steps divinely directed when we saw not the need of guidance, or the suggested thought that crept into the mind so opportunely and yet so quietly, and thus changed the misgoings of life,—these were all divine caretakings, unobserved at the time, or thought trivial vagaries of Providence; but when the events, all foreseen by our watchful Benefactor, were fully developed, and the Father's hand seen in them all, it was then that we exclaimed in the fulness of our gratitude, 'Thou knowest my downsitting, and mine uprising, thou understandest my thought afar off. Thou compassest my path and my lying down, and art acquainted with all my ways;' 'Thou hast beset me behind and before, and laid thine hand upon me.'

"The crawling worm from which we turned with loathing was travelling to his glorious destiny of incarnation as a butterfly, clothed in unsurpassed beauty—from grovelling in the dust and feeding on wood and poisonous net-

tles to floating in the air on golden wings and sipping honey from the morning flowers. And are there no moral analogies here? Does God so adorn and care for a feeble and short-lived race of insects, and leave those created in his own image, and invested with infinite possibilities and longings, only to neglect and chance, cast off to caprice and despair? Every true heart answers with emphasis, 'No; the thought would be blasphemy.' Then surely it is our duty, as it should be our highest joy, to devoutly worship and adore the God of our life and the sleepless Guardian of our steps, our hope now, and our eternal joy hereafter—that gracious Being 'who is over all, God blessed for ever. Amen!'

"The transition from the air-spangled butterflies to the 'fowl of the air' is as natural as it is easy; it is the next round in the ascent of creative glory. Higher in structural organization, and serving a more obvious purpose in the divine plan, the lessons of ornithology have always possessed peculiar attractions for the student of natural history. We may hate the bugs and take but a passing notice of the gorgeous butterflies, but none are so dull as not to feel

that a special blessing was conferred on the earth when God created the 'winged fowl after his kind,' and all concur in the divine approval: 'And God saw that it was good.'

"Putting aside the question of utility, and taking into consideration only that which interests by uniqueness of form and elements of beauty, undoubtedly the birds carry off the palm. There is no order in all the round of Nature that fills so many of the senses, and fills them so completely. The floral glories of the field and garden gratify the eye and delight with their fragrance and lusciousness; the insect world has its rare curiosities and attractions; the fish of the sea and the beasts of the field have their wonders to hold admiring inspection; but the 'fowls of the air' surpass them all in points of attraction. They gem the air with the flash of their wings, and fill the ear with the melody of their songs. Their gifts are angelic, song and wings; and they alone of all the animal races have acquired something of man's endowment of language. A landscape without a shrub or flower would be a desert, and a grove without a bird or a song would repel as a dreary solitude. Neither is abso-

lutely necessary for mere existence; and how it exalts our conception of the goodness of the Divine Father to notice that when he made the eye and the ear he so graciously provided for the gratification of both! It has ever seemed that a grove with feathered songsters in full chorus was the richest token of God's purpose to give the fullest delight to man. It is, perhaps, the nearest approach of material joys to the character of celestial blessedness—beauty, song, and pure emotions. The sight and song of birds excite no grovelling, sensuous passions, beget no unhealthy cravings, impel to no evil associations. They rather lead the mind away from whatever is gross, and draw the heart powerfully upward. Joyous devotion is the keynote of the bird's melody, and happy is he who can catch the true chord of the strain.

"Oh the delicious days spent in field and grove watching their winged inhabitants and listening to their sweet, joyous warblings! The happy singers seemed to understand the loving interest taken in their innocent pastimes, and fluttered the more freely over the head of the gratified observer, and twittered with a richer cadence as they dallied for closer inspection

This is no mere flight of rhetoric, for many observers have noticed the same trait in bird-character. They seem to understand the purpose of one who takes an interest in their ways, and gratify him by a little coquetry in showing off the graces of their feathers and their wings. In several instances of personal experience have birds shown great familiarity, allowing nearness of approach with little or no fear, when the presence of a stranger would cause earnest outcries of disapprobation. This trait has been especially noted in robins, catbirds, wrens, bluebirds, and sparrows, only, perhaps, because they are the most common to observation. It was only a year ago that some bluebirds became too straitened in their quarters, and new accommodations had to be provided for the increasing families. These were constructed under the curious eyes of the birds, and no sooner were they completed than the little home-seekers took possession, twittering out their joy and fluttering their wings in very thankfulness. Nor were they slow in sharply expressing their disapprobation to a family of wrens that tried to put in a claim to one of the apartments. It was quite plain that they tried to make Mrs.

Jenny Wren understand that the homestead had been erected exclusively for bluebird occupation, and it was imagined that an appeal was made more than once to the interested builder, who stood near by, to confirm the rights of the true claimants. To end the strife, the disappointed wrens were provided with suitable quarters, and the happy colonies are now among the feathered treasures of Willow Cottage.

"The study of birds has ever been a fascination, much enhanced by the fact that it was in observing their construction and habits that there was early obtained the first deep impression of special adaptations. Long before any knowledge of scientific classification was obtained from books, the peculiar formation of many birds had arrested attention—the peculiar feet of the woodpeckers, the sharp claws and beaks of hawks and owls, the long legs of the waders, the webbed feet of ducks and geese, and the strong toes and legs of the scratchers. Indeed, quite a classification had been made out, and so correctly as to cause no ordinary delight when it was found that but little change was required to make it conform to the statements of the books.

"The entire physical organization of a bird

is unique and special—bones and feathers, external shape and internal organs, its habitat and manner of reproduction. In all these regards the special hand of a Superior Designer is so evident that it would be folly to dispute with one who might be so dull as to call it in question.

"But perhaps the most striking peculiarities of the bird are the gift of wings and the manner of their use. This fact is so marked that the distinguished Duke of Argyle, in his treatise on the *Reign of Law*, has given the largest space to the elucidation of this striking testimony in favor of a divine mind and hand in the creation of a bird. And no wonder, for it is one of the most marvellous things in all the riches of Nature, extorting even from Solomon the confession that among the three or four things which he did not understand was the 'way of an eagle in the air.' Those who would enjoy a rich treat, and get clearer conceptions of the Infinite Wisdom in the works of creation, should get the duke's excellent work, and read those pages in which he so beautifully and forcibly describes the wings and motive-force of various birds. What he writes of the hummingbird is too good to be omitted, and is therefore

reproduced for our instruction. He says: 'The humming-birds are perhaps the most remarkable examples in the world of the machinery of flight. The power of poising themselves in the air—remaining absolutely stationary whilst they search the blossoms for insects—is a power essential to their life. It is a power, accordingly, which is enjoyed by them in the highest perfection. When they intend progressive flight, it is effected with such velocity as to elude the eye. The action of the wing in all these cases is far too rapid to enable the observer to detect the exact difference between the kind of motion which keeps the bird at absolute rest in the air and that which carries it along with such velocity. But there can be no doubt that the change is one from a short, quick stroke, delivered obliquely forward, to a full stroke, more slow, but delivered perpendicularly. This corresponds with the account given by that most accurate ornithological observer, Mr. Gould. He says: "When poised before any object this motion of the wing is so rapidly performed that it is impossible for the eye to follow each stroke, and a hazy semicircle of indistinctness on each side of the bird is

all that is perceptible." There is another fact mentioned by those who have watched their movements most closely, which corresponds with the explanation already given—namely, the fact that the axis of the humming-bird's body when hovering is always *highly inclined*—so much so as to appear almost perpendicular in the air. In other words, the wing-stroke, instead of being delivered perpendicularly downward, which would infallibly carry the body onward, is delivered at such an angle forward as to bring to an exact balance the upward, the downward, and the forward forces which bear upon the body of the bird. Mr. Darwin says: "When hovering by a flower, the tail is constantly shut and expanded like a fan, *the body being kept in nearly a vertical position.*" Mr. Wallace, another accurate observer, describes the humming-birds as "balancing themselves vertically in the air."'

"To the exact accuracy of these statements can be added the testimony of many years of close observation; and not the least wonder of the whole operation is that the bird is able at all to use the wing-muscles with such lightning rapidity—so rapid as to give the peculiar bullet-

like sound which has secured to the bird its common designation.

"The noble reasoner continues: 'So many are these contrivances, so various, so fine, so intricate, that a volume might be written without exhausting the beauty of the method in which this one mechanical problem has been solved. It is by knowledge of unchanging laws that these victories over them seem to be achieved; yet not by knowledge only, except as the guide of Power. For here, as everywhere else in Nature, we see the same mysterious need of conforming to imperative conditions, side by side with absolute control over the forces through which this conformity is secured. When any given purpose cannot be attained without the violation of some law, unless by some new power and some new machinery, the requisite power and mechanism are evolved generally out of old materials and by modifications of pre-existing forms. There can be no better example of this than a wing-feather. It is a production wholly unlike any other animal growth — an implement specially formed to combine strength with lightness, elasticity, and imperviousness to the air.

"'On the earth and on the sea man has attained to powers of locomotion with which, in strength, endurance, and in velocity, no animal movement can compare. But the air is an element on which he cannot travel—an ocean which he cannot navigate. The birds of heaven are still his envy, and on the paths they tread he cannot follow. Float there he may, the sport of winds, buffeted and fearful, while his fickle gas is held under restraint; but to breast the winds at will, and to go whithersoever his roving fancy may desire, are beyond man's ability until God shall give him wings to soar higher than ever yet went flight of sun-dazed eagle.'

"The sublimest triumph of wing-power is seen perhaps in the albatross, found often in mid-ocean, where it has been known to follow a ship for days and nights together,

'The bird of the tireless wing.'

It moves even in the face of a strong gale with little or no effort of wing, and is supposed to have the power to sleep, resting on its outspread feathers, while waves toss and break below. Stupid and almost helpless on deck or on shore, when its wings are outspread it can

laugh not only at plodding man, but exult amid storm and tempest in a freedom which perhaps no other animal can emulate. All visitors to the seashore have observed with pleasure the easy and beautiful motions of the osprey, or fish-hawk; but to know its power of wing it must be seen facing a tempest or shooting with the directness and speed of an arrow upon its finny prey, and seldom missing the mark. The erratic yet graceful movements of the chimney-swallows have attracted every observer. High in the evening air they sweep through circle after circle, with only an occasional flutter of the wings; and then, pausing for a moment over some chimney-top, they drop into it with the directness of a plummet. Not less beautiful are the flights of the bank- and brook-swallows. How gracefully they skim along the surface of the water, now and then barely touching it, and then, with a twinkle of the wings and a joyous twitter, are again shooting along as though exulting in their skill!

"When we examine the wonderful mechanism of the bird, we cannot fail to trace out the special lines of superior design. The thick muscles of the breast, extending up the forearm

of the wing; the graceful and nicely-graduated feathers and wing-plumes and rudder-like tail,—these are marks of special adaptations which cannot be overlooked, and reveal a motive-power beyond human understanding.

"Little less wonderful in special adjustment are the powers of vision in birds. Eagles have a sight so keen that it must be both telescopic and microscopic. High in air, they can mark the skulking hare or other small game, and pounce upon it with unerring certainty. This astonishing keenness of vision is shared more or less by all the rapacious birds which seize their prey by daylight. But while they are making such abundant provision for their wants, behold sitting yonder the poor owl, craving the same kind of feeding, but dozing and blinking, quite dazed by the sun-rays in which his feathered compeers so much delight. Has the great Provider of meat for all made a mistake in the make-up of the hungry owl? With a white covering you can approach near enough to the poor wight to make inspection of his outfit. As you do so, a great pair of staring eyes will be turned dully toward you; and with such orbs you wonder that the

bird does not manifest a stronger sense of your presence. Look more carefully, and notice that in the centre of those great eyes there is only a narrow streak of brilliant, glassy black shining through the filmy shield that is drawn over them. It is observed that the stronger the light the greater the contraction of this dark thread. Ah, it is clear that those blinking eyes were not made for the strong sunlight of day; but let the night come, when eagle and hawk, and nearly all the rest of the feathered tribe, seek roost and eyrie, and then hear the joyous *to-whit! to-whoo!* of the owl; and mark those staring orbs, how they expand and the pupils dilate, until they can detect the sly mouse as he nimbly scrambles among the stubble, or the little sparrow hidden among the thick branches. God has not forgotten the owl, nor unfitted him for his environment; he is a night-banqueter, and knows the hour when the hand of the Bountiful One has spread the feast for his enjoyment.

"The wings and eyes of birds are little more singular than their digestive apparatus. Toothless, the food must be swallowed just as found; hard or soft, coarse or fine, it goes into the crop, there to be fitted for its work of nutrition.

Oftentimes the food is swallowed in size nearly as large as the head of the bird, as in the case of the wild pigeon. From the crop of one of these birds there were taken three of the largest acorns grown in the West, either one of which was nearly the size of the pigeon's head. When swallowed the shells were unbroken, being dry and very hard. To one unacquainted with the physiology of birds, it would seem impossible for the greedy creature to dispose of such cumbersome materials; and hence one might infer that death must ensue from gorging such intractable substances. But open the distended craw, and see if it will reveal the marks of inadequate skill. No; there is an arrangement just adapted to the contingencies of the case. The craw is made up of two exceedingly muscular halves or valves, lined with deeply-corrugated vellum-like skin, capable of indefinite and strong contraction and expansion. Now mark the marvellous provision for meeting the special needs of the bird. With the food a quantity of small gravel-stones are swallowed, and by the muscular contraction of the crop the contents are ground into a pulpy mass easily digested and assimilated.

"Another marvel in bird life is the annual migration northward or southward, according to the habits of the bird and the nature of its wants, making the temperate zone the middle-ground of commingling. Every one is familiar with the fact that the birds of our fields differ greatly in summer and winter. The spring brings the bobolinks, swallows, and vast flocks of geese and ducks, wild pigeons, and various other kinds of birds; but the snowy owls, buntings, loons, eider-ducks, and similar lovers of cool latitudes then seek the higher regions of the North, thus fleeing from the heat which the others find so essential to their existence. How beautifully can be traced in all this the beneficent Hand that would gladden the aspects of every landscape with the flash of wings and anthems of bird-melody! and thus God makes one to pant for sunny groves and the other for the cool grottoes and icy ledges of the polar regions, where, amid the dread silence of its ice-fields, even the hoarse croak of the goose must be most welcome music.

"Whence these wonderful instincts, the ability often surpassing the sharpest exhibitions of reason? Why does one turn to the South and

the other to the North? and who guides them both on their trackless way?

'Whither, 'midst falling dew,
While glow the heavens with the last steps of day,
Far through their rosy depths, dost thou pursue
Thy solitary way?
* * * * *
'There is a Power whose care
Teaches thy way along the pathless coast,
The desert and illimitable air—
Lone wandering, but not lost.
* * * * *
'He who from zone to zone
Guides through the boundless sky thy certain flight,
In the long way that I must tread alone
Will lead my steps aright.'

"Many of these annual aërial voyages are made in the night, when all the landmarks are hidden by the darkness, yet the markless pathway is unerringly kept. How soon would man, left thus without waymark or compass, be at his wits' end, wandering he knows not where! Reason must have basis and initial-point from which to start, and ever-recurring indices, or it fails to reach the desired end; but God keeps the pilotage of his feathered creatures, so that one cannot fall to the ground nor lose its airy

way from want of his care and direction. Truly, for his unceasing and unfailing guardianship they may well repay him with a tribute of song and praise; and shall we be less devout and grateful than the birds? Nay, verily, let the study of their wonderful endowments lead us to emulate their tributary offerings to the Infinite One, who with a more watchful care and richer love 'will be our Guide even unto death,' and afterward receive us to glory."

"Thank you, doctor, for your exceedingly interesting lessons," said Davidson, "which have been blest so far at least as to give me a higher conception of man's life and destiny."

"I am very glad to hear you say so," replied Doctor Dean, "and trust that you may find that pathway which shineth 'more and more unto the perfect day.'"

"God speed the day," was the earnest reply, "and keep me under the guidance of a good pilotage!"

"May God grant you both," was the ardent response of the kind instructor, "a speedy and happy illumination!"

CHAPTER XV.

BEAUTIES AND MARVELS OF BIRD LIFE.

A RECURRENCE of the appointed evening found the usual company assembled in the library at Willow Brook.

"Since our last interview," said Doctor Dean, "the subject of bird life, with which our last conversation closed, has lingered with a pleasing freshness in my thoughts, creating an interest that will not allow the topic to rest without further illustration. Their curious structure, their gifts of beauty and song, and their instincts, that sometimes approach so nearly to reason, invest the songsters of our groves with an unflagging interest.

"A simple feather is a marvel of construction. Notice its horny, tubular stem, and its delicate fringing of soft filaments, laminated and interlaced by minute barbs, and all held together by a wonderful electric attraction. A small

pocket-lens will help to make these facts more apparent and interesting. It is exceedingly attractive also to study the variations of the feathers of birds as differences of condition demand. Every part of the body presents some striking modification, head, neck, back, breast, wings, and tail—some to shield, some to warm, some to fly with, and some to direct the flight; soft and downy in the North to shut out the cold, and thin and fibrous to let in the cool breezes in the South; held together and made impervious to water by electrical attraction in the water-fowls, and open and waving in the ostrich of the desert. How omniscient must chance, necessity, or natural selection be, in order to anticipate and provide for all these wonderful contingencies! and how persistent and systematic to check all further variations when the happy condition of perfection has been reached!

"The 'gray goosequill' or the modest garb of the little brown sparrow is a theme for admiration and study; but how the field amplifies and excites astonishment as the eyes begin to take in the strange variations and embellishments of bird-plumage! How easy to group

the colors of the rainbow in a few birds—nay, sometimes in a single specimen! Take the orioles, tanagers, finches, jays, with a humming-bird or two, and you make up an animated picture that will dazzle and delight the dullest vision.

"Examine the splendid collection of parrots and macaws in the Zoological Garden at Philadelphia, and notice what a rich display of brilliant coloring will be found in their plumage. The egotistic struttings of the gaudy peacock have some show of justification with such a magnificent spread of jewelled feathers, challenging the very genius of colors to an emulation; for even if the tints are all correctly blended, the matchless iridescence of his plumage will baffle all efforts to reproduce it.

"In the shaping and adorning of these feathered brilliants it would seem as though Nature in some exceedingly happy and capricious mood had taken her patterns and dyes, and shaped and splashed to the fullest bent of her fancy, and then tossed her work into the air, gem after gem, until her sportive imagination could go no farther; and the result was, that the hundreds of tiny humming-birds went buzzing and

sipping from flower to flower to commemorate this happy hour of creative sportiveness.

"We *feed* on the gross and material, in order that we may *live* on the beautiful and the spiritual; and no one can have a proper conception of the all-abounding goodness of our Heavenly Father unless this higher purpose is traced out in all his work. The body is the servant of the soul, and it requires the greatest watchfulness to keep it in proper subjection, for it is ever striving to become master; and when it once succeeds, it exacts the most grovelling service as its trophy of victory. With a proper conception of the relations of the material to the spiritual, the study of this exquisite order of birds cannot fail to inspire us with the most devout thoughts.

"The humming-birds are found, in the warm season, as far north as Alaska, and extend their range southward as far as Patagonia, the greatest numbers and variety being found in New Granada. In our Middle States only two varieties are seen—the ruby-throated and the linne humming-birds. Although they are among the least attractive in the group, they are everywhere hailed with admiration for their brilliancy

and vivacity. They are certainly a charming sight when seen flashing through the air, now poised on viewless wings as they dip their long bills into some honey-laden flower, and now shooting with the hum of swift wings to another. Occasionally, the humming-bird will alight for a moment, but always on some dry, leafless twig, and with a peculiar twinkling of the wings and a faint chippering sound, the only music which it ever seems to make. Delightful little rovers among summer bloom and sweetness, their absence would cause deep regret to every lover of the beautiful.

"California and the South are favored with a large variety of these tiny little air-gems, having half a dozen species or more; but as they do not embody any of the higher points of beauty, they can be passed without more special mention.

"Near the equator we reach the paradise of the humming-birds, and there one may linger and feast his eyes with the flash of their wings and the sparkle of their living jewelry.

"The humming-bird family is so numerous that no complete living collection has ever been brought under inspection, and thus they

are only seen as lifeless and robbed of half their brilliancy. More than five hundred varieties have been brought together in the Smithsonian Institution, and, though but the 'counterfeit presentment' of the living reality, they form a peerless group of Nature's exquisite handiwork. What a picture to entrance the eyes if we could see all these gems of the air sporting and flashing with their native sprightliness!

"To the birds must be given, also, the palm for mechanical ingenuity. They can sew, weave, braid, felt, glue, and plaster, and in equal variety of forms adapt their architecture to the requirements of climate and circumstances; for in the same species the widest variations are found to occur as new adjustments are demanded. Few objects are more interesting to the lover of the curious than a fine collection of birds' nests. Once thoroughly examined, it will be admitted without dispute that they compare very favorably with the elaborate work of human hands; indeed, in some instances they surpass the skill of man. The marks of special design are everywhere apparent, and the purpose has been most skilfully worked out, though the little workers

possess neither square nor dividers, only feet, bill, and breast, to aid them in their work. The most varied materials are used, and are selected and appropriated with special care as the different conditions and stages of progress require. Now a foundation of sticks or mud, as used by the robin, and now moss, grass, leaves, and any soft woolly fibre, lint, wool, cotton, or down of flowers. Others use a glutinous secretion or transparent jelly, as in the edible swallows' nests so highly prized as a delicacy by the Chinese. But, with the exception of a few species which lay their eggs on the ground, whatever may be the materials used in the main structure, the final inner finish is of the softest texture that can be obtained, even in some cases, as among the humming-birds, the dainty web of the spider. Whatever requisites may be used, they are assorted and worked into the structure with art that no human skill can equal. If this statement is questioned, let the doubter try his hand on the nest of a robin or an oriole, and he will find his best efforts at imitation abortive.

"In studying these characteristics of birds no thoughtful observer can fail to realize the force

of the question of Job, put to his pretended friends: 'But ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall tell thee; and the fishes of the sea shall declare unto thee. Who knoweth not in all these that the hand of the Lord hath wrought this?'

"But let us look at the attractive and beautiful beginning of bird life. The nest, the eggs, the patient and contented incubating mother-bird, the callow young,—all charm the observer, with no intrusive element to mar the enjoyment. The egg from which the bird is evolved is like a beautiful jewel; its cradle is a downy couch, rocked by the fragrant airs of summer, soothed by matin and vesper from the feathered choirs of the grove; and thus the young one is prepared to take joyous wing and become a happy participant in such a beautiful life.

"In early days, when works of art were almost unknown in the frugal homes of our forefathers, the deficiency of adornment was made up in some degree by strings of beautiful eggs hung in festoons before the looking-glass or grouped on mantels and shelves, forming cheap but dainty ornaments. Among the earliest resorts of the lads in those days to obtain their

pocket-money were bird-nesting expeditions to supply some new housekeeper or ambitious dame with these coveted ornaments. When properly conducted, no great objections could be made to these forays, as no real harm was ever inflicted on the birds. One or two eggs, when a larger number was found, would not be missed by the mother-bird. Sometimes, indeed, a greed for rapid gains may have caused the depredators to quite overlook all considerations of cruelty; yet there was in general a strict adherence to the rule of mercy—they did not leave an empty nest behind them. Nor was the love of gain the only motive which led one to engage in these enterprises. Bird-nesting became a study and delight; the eye and the mind were fed and feasted on the beautiful speckled treasures which were found therein. The zeal and enjoyment which stimulated this pursuit soon secured to the enthusiast the largest and most varied collection in the whole neighborhood, of which he was not a little proud. In this work of egg-gathering very naturally the study of the position, form, and texture of the nests, and the shape and embellishment of the eggs, became matters of deep

interest, creating a taste for these things which has never flagged through life. In this way, long before any treatises on ornithology had been read, quite an accurate knowledge of this department of natural history had been gained; so that in most cases a sight of an egg was quite sufficient to determine the species of bird to which it belonged and the general conditions of the nest in which it was found.

"One of these bird-nesting experiences will never be forgotten, because it was a most serious matter at first, and has been a laughable reminiscence ever since. The day had been spent with more than usual success, and the homeward route was taken with a collection of speckled treasures richer than had ever before been obtained. Like most suddenly-acquired riches, there was a little uneasiness of conscience as to some of the methods used in the acquisitions. Two rare nests had been found in the thick underbrush of the swamp, those of the blue-winged and the black-throated warblers; and the temptation was so great in one case that three out of the four eggs were taken as dainty trophies. Being so absorbed in collecting the treasures found, the passing hours

were hardly noticed until attention was arrested by the gathering shades of evening. Making toward home with all possible speed, it was nevertheless quite dark when the new clearing was entered in the centre of which it stood. Just as the opening was reached, at a point where a number of fallen trees were yet lying, a hoarse sound seemed to come from near one of them that fairly curdled the blood. It seemed to the startled imagination like the suppressed groan of some one in great distress or the dread wail of some imp of darkness. Startled by the dread sound, a furtive glance was cast behind, when another groan sent the feet flying homeward with all possible speed. When safe within doors a graphic account of the dread encounter was given, but, instead of getting the expected sympathy, a hearty laugh at my expense only added to my distress. After a tantalizing of sufficient length, the more experienced father said that the dread ghost would likely turn out to be only a harmless night-hawk that had a nest near at hand, and took this method to frighten away the intruder, in which the bird certainly was pre-eminently successful. An examination on the following day proved

the truth of the surmise. Near one of the old logs the rude nest of the bull-bat was found, containing the usual two handsome speckled eggs. This fright by the poor night-hawk has been of great use through life; for ever after, any unusual occurrence which might be tortured by ignorance into something dread or supernatural was carefully searched into, and generally with the same easy solution.

"The special ends provided for in an egg are among the most striking and beautiful in Nature. To enable the young bird, at maturity, to break its way into the world, the shell must be capable of being easily broken from within; but in making this provision a formation must be adopted that will sufficiently resist a force exerted in the opposite direction. And the egg completely meets these conditions. The oval shape secures the well-known strength of a tubular formation; and every boy is familiar with the force it requires to break an egg when it is applied endwise. It is also seen that any shape giving edges or angles would be at once fatal to its safety; but its elliptical form gives no salient points for injury or attack. Within, the egg is a perfect laboratory of chemical and

vital wonders; everything there is perfectly adapted in essence and quality to the purpose intended. Surrounding these essential elements there is the delicate membrane which makes the porous shell impervious to all damp from without or an equally fatal leakage from within. In the centre of this marvellous storehouse hangs the living germ of the future bird, and all around is the exactly-measured provision for feeding the growing chick until the time of hatching, when every particle is consumed; the dead matter has entirely disappeared, and the perfect living bird fills the place made vacant by its consumption. Surely no blind chance has been working at random here, but infinite and far-seeing skill.

"The wisest philosopher, with the egg in his hand to examine and analyze, is entirely unable to compose a second egg; nay, indeed, he is confounded when he attempts to search out the mysteries of the one he is holding. It may seem somewhat extravagant, but certainly with some show of justification for the assertion, when Michelet, the enthusiastic writer on the bird, exclaims: 'Speak not to me of suns, of elementary chemistry, of globes. The marvel

of a humming-bird's egg transcends the Milky Way!' You may reply with a sneer, 'Why, it is nothing but a tiny egg, not bigger than a pea, and it is absurd to make such a statement.' True, it is a wee thing, but then mystery is not measured by the yard nor estimated by its avoirdupois; and sometimes the less the object, the greater the marvel which it reveals. In this view, the Frenchman's comparison is not so strained, after all. That little white ball contains not only a laboratory of chemical wonders, but also wraps up within its narrow dimensions the awful mystery of life—a life environed with marvellous conditions.

"Let us look more carefully at some of these pearl palaces of the infant bird-races.

"It is not often the case that the birds of the gaudiest plumage produce the handsomest eggs; indeed, generally it is quite the reverse. As it is with the power of song, Nature has a nice discrimination in the application of her compensating laws, and never lavishes all her bounties on one subject or order. The ravenous birds are generally of the most sober colors, and their voices breathe only the harshest notes; but examine their eggs, and they will

be found among the handsomest both as to form and embellishment.

"What wonderful and intelligent potencies 'chance,' 'evolution,' and 'natural selection' must be, to so far outstrip the grandest exhibitions of reason—nay, to so adjust and enforce laws that the strongest minds, after years of zealous study, are unable to discover and explain! Are these the only factors which produce the egg and push it on to its finished work? Ah no!

> 'Bird and beast and creeping thing,
> That tread the earth or spread the wing,
> Eternal power and goodness prove—
> A God to honor, praise, and love.'

"Many pre-eminent gifts have been claimed for the birds, and some of the reasons for the claim have been presented. An additional proof of their superior endowments will be found in the 'gift of tongues' and in the natural power of melody. They are truly sharers in angels' gifts—*wings* and *song*. In the whole range of animal life not one outside of the feathered tribes has ever acquired so much as a single word of human speech or breathed

a note of song. Even the animals that in other respects approximate nearest to his form and lineaments, and which have been claimed to be his progenitors, as the ourangs and gorillas, have utterly failed to pronounce the shibboleth that would justify a claim to kindredship. Nor have they ever given proof, by aught of 'oaten stop or pastoral song,' that they have any music in their souls. Their only claims to the high eminence demanded for them by their human admirers are based on a grotesque caricature of the human form; and it may be also from an undue exhibition of animal depravity and love of mischief. They low and bray, bark and whine, roar and scream, as did their ancestors, pitched to the same harsh key, expressive only of natural wants, fear, or defiance.

"Language is the peculiar prerogative of man, but the birds have fairly trenched upon his high gifts and wrested some of his vocabulary from his exclusive use. As is well known, the parrots have not only been able to articulate words, but also to form them into intelligent sentences. They often use language timely and appropriate, apparently with conception more or less clear of the meaning of the words ut-

tered. Were it thought necessary, abundant proof could be given of the truth of these statements; but facts sufficient to substantiate the assertion have come under the notice of almost every observer, and evidence need not be amplified. In personal experience, at least two instances of blue parrots have been met with capable of carrying on quite an intelligent conversation, and not without some flashes of wit which showed a true appreciation of humor.

"In song these gifted birds have proved themselves quite adepts. The faculty is not natural to them, as with thrush, sparrow, and finch, but they are apt pupils in the choral art. Parrots have been trained to sing with much correctness many simple melodies, as 'Days of Absence,' 'Auld Lang-Syne,' 'Old Dog Tray,' and similar airs. In one instance a parrot belonging to a devout Methodist family, in whose house a class-meeting was held, became so familiar with some of the spiritual songs used on these occasions that it would join in with great glee; but as it was not so careful as was requisite to regard the time, it became necessary to remove the bird when the meetings were held. This treatment poor Poll highly resent-

ed by keeping up an unearthly screaming as long as the singing could be heard.

"But, wonderful as are the acquisitions of the parrots, their abilities lack the spontaneity and sweetness of the natural singers of the grove—the thrushes, finches, and other members of the order of *Oscines*. Their exhibitions of skill are acquired, and, as all art is but an imitation of Nature, ever falls as short of perfection as the shadow does of the substance, so does the chatter of the parrots fail to equal the vocal sweetness of the true singers. Indeed, the vocalization of man can hardly reach the melody of the bird in this regard. If the strains of the former were divested of the power of expressing sentiment and emotion, as under the control of reason, the birds would carry off the palm of victory. Few, if any, will call in question this statement when listening, on a a bright spring morning, to the bird-melodies which greet the ear from grove and thicket when the first bright beams have

> 'Touched the wood-bird's folded wing,
> And said, "O bird, awake and sing."'

"It has already been stated that birds of

plain feathers are compensated for the denial of personal beauty by the bestowal of the daintiest eggs. So the thrushes, larks, and finches are the most richly gifted of the feathered vocalists, though they are among the plainest of the feathered tribes. But happy is their lot. Gaudy plumes only cover the outside, and often feed a strutting vanity, as in the peacock and turkey-cock, while song warms the heart of the singer and charms away the gloom of clouds and solitude. Vanity is earth-born; song is celestial. The one leads to guilt; the other is the sweet natural outbreathing of devotion, the language of praise and adoration.

"The nightingale is one of the plainest of birds, but her song is so rich and spontaneous that her fame has been rehearsed in all climes where her melodies have enriched the groves and made them classic. It is to be regretted that some enthusiast has not before this domesticated this charming singer among our own gifted birds. Found in the three older continents, there seems no just reason why the species should not take kindly to some sections at least of our wide and varied country. What a splendid rivalry might thus be awakened

between this gifted foreigner and our equally brilliant mocking-bird! and what a rich addition to our already splendid repertory of bird-songs! The same may be said of the skylark, whose sweet notes, and the peculiar manner in which they are uttered, have so charmed all listeners. Washington Irving, whose sense of the beautiful was so acute, said that he should never forget the delight he experienced the first time he saw the skylark start up from almost beneath his feet and wing its way up to the very clouds, all the while pouring forth its delicious melody. It is said that this lark never sings on the ground, but, taking its flight almost directly upward, it begins to sing from the first start, increasing its notes in power and as it gets nearer and nearer to the celestial source from whence its divine gift of song came. When the utmost altitude of flight is gained, and the wearied wing begins to yield to the downward pressure, the joyous gush is over, and the disappointed bird drops again in silence to the earth, as though saddened by its failure to gain the heights and associations which it sought. Who but could repeat the invocation of Shelley to this gifted bird-artist?—

'Better than all measures
Of dĕlightful sound,
Better than all treasures
That in books are found,
Thy skill to poet were, thou scorner of the ground!

'Teach me half the gladness
That thy brain must know,
Such harmonious madness
From my lips would flow,
The world should listen then as I am listening now.'

"Europe is especially blest in the number and excellence of its singing birds, many of which should long before this have been naturalized in our groves and fields; but we must pass by others unnoticed, as there are many of our own sweet singers awaiting proper recognition.

"If we must yield the palm to the nightingale and lark of the Old World on the score of sweetness, we can with perfect confidence assert the pre-eminence of our peerless mocking-bird for vivacity and variety. He is such a polyglot that it is hard to determine the key of his own natural song. So delicate is his ear, and so flexible and imitative his vocal organs, that so soon as he is able to chirp in his own proper cadences he catches up, with almost in-

finite variations, the 'wood-notes wild' of almost every other singer in the vicinity. Nay, he does not stop with imitations of his feathered compeers, but repeats with equal facility and correctness all the sounds which come to his ear, whether from animate or inanimate sources. Robin and wren, thrush and sparrow, bluebird and lark, hawk and crow, hear their native tongues, whether in song or outcry, croak or scream, repeated with an exactness of modulation which deceives them all. When domesticated there are few sounds, in doors or out, which this bird will not aptly reproduce. He whistles and laughs in mimicry of his human neighbors; mews and barks with cat and dog; repeats the grinding of the coffee-mill or sharp crisp rip of the saw, and the hundred and one other varied sounds of a busy household. Mr. Wilson, in his fascinating book on birds, thus sets forth the marvellous ability of this delightful woodland vocalist:

"'In his native groves, mounted on the top of a tall bush or half-grown tree, in the dawn of dewy morning, while the woods are already vocal with a multitude of warblers, his admirable song rises pre-eminent over every compe-

titor. The ear can listen to *his* music alone, to which that of all others seems a mere accompaniment. Neither is this strain altogether imitative. His own native notes, which are easily distinguishable by such as are well acquainted with those of our various song-birds, are bold and full, and varied seemingly without limits. They consist of short expressions of two, three, or, at most, five or six, syllables, generally interspersed with imitations, and all of them uttered with great emphasis and rapidity, and continued with undiminished ardor for half an hour or an hour at a time. His expanded wings and tail, glistening with white, and the buoyant gayety of his action, arresting the eye, as his song does most irresistibly the ear, he sweeps round with enthusiastic ecstasy; he mounts and descends as his song swells or dies away; and, as my friend, Mr. Bartram, has beautifully expressed it, "he bounds aloft with the celerity of an arrow, as if to recover or recall his very soul, expired in the last elevated strain." While thus exerting himself a bystander destitute of sight would suppose that the whole feathered tribes had assembled together on a trial of skill, each striving to pro-

duce his utmost effect, so perfect are his imitations. He many times deceives the sportsman, and sends him in search of birds that perhaps are not within miles of him, but whose notes he exactly imitates; even birds themselves are frequently imposed upon by this admirable mimic, and are decoyed by his fancied calls of their mates, or dive with precipitation into the depths of thickets at the scream of what they suppose to be the sparrow-hawk.

"'The mocking-bird loses little of the power and energy of his song by confinement. In his domesticated state, when he commences his career of song, it is impossible to stand by uninterested. He whistles for the dog; Cæsar starts up, wags his tail, and runs to meet his master. He squeaks out like a hurt chicken, and the hen hurries about with hanging wings and bristled feathers, clucking to protect its injured brood. The barking of the dog, the mewing of the cat, the creaking of a passing wheelbarrow, follow with great truth and rapidity. He repeats the tune taught him by his master, though of considerable length, fully and faithfully. He runs over the quiverings of the canary and the clear whistlings of the Virginia nightingale, or red-

bird, with such superior execution and effect that the mortified songsters feel their own inferiority, and become altogether silent, while he seems to triumph in their defeat by redoubling his exertions.'

"We can bear ample testimony to the truthfulness of this description from repeated exhibitions of a similar character witnessed during a residence in the South and South-west; and can there be one so dull as not to find special enjoyment in such communings with Nature? Alas for such! They will never understand why Audubon, Wilson, Agassiz, and many others could put aside moneyed inducements and forsake the refinements and comforts of society for the rough camp in the woods and mountains, in order to meet their favorites in their native haunts.

"One other trait of the mocking-bird must be referred to before he is dismissed from notice—his evident love of waggery, as shown by his practical jokes. As, for instance, hid in some close thicket or treetop, he will imitate the love-calls of the neighboring birds until he has filled the surroundings of his concealment with scores of amorous dupes, peeping with awakened curi-

osity for the hidden charmer, when shriek after shriek, in the fiercest tones of some ravenous bird, sets them all flying in the utmost terror from the supposed terrible enemy. When the cunning deception has been successfully accomplished, no one can doubt the rich enjoyment of the wag who has ever beheld him coming from his hiding-place, and, in the very ecstasy of delight, flitting from limb to limb, fluttering his wings and chattering—or, indeed, fairly laughing—at his frightened dupes. One cunning old bird was observed to repeat these feats of deception and waggery almost every day during an entire summer, leaving no doubt in the mind of the deeply-interested observer that they were deliberately planned and carried out, and that they were enjoyed by the wily bird with the keenest zest.

"The well-known catbird, a first cousin of the mocking-bird, has no mean vocal powers. Indeed, an old male bird will sometimes fairly rival his more gifted relative in everything but his marvels of mimicry. By the lover of bird-melodies his return is ever hailed with a glad welcome.

"The dainty little canary must not be omitted

in our list of song-birds. Once confined to the narrow boundaries of a few islands of the sea, his musical gifts have made him cosmopolitan. In the line of melody he is an adept, while in the spontaneity and brilliancy of his style he is unsurpassed. He is the only one of our true song-birds that seems to take kindly to captivity, and therefore is justly the universal favorite among cage-birds.

"The delicious robin-music which greets the earliest beams of morning, and that floats again on the evening air, is a joy of song that has thrilled every ear that can be moved by 'concord of sweet sounds.'

"The softer, shorter, but equally delicious notes of the bluebirds, warblers, wrens, and larks fill up the rich choruses of our landscapes, which altogether make up a benison of beauty and sweetness that should make every devout heart thankful.

"Hitherto, in tracing out the wonderful and the beautiful in Nature, evidence has been followed which carried the observation downward, where the wisdom and power of God have been revealed in marvels of design and workmanship, and his condescending goodness in provisions

to satisfy soul and sense. But in our last study of birds the pathway of research has been reversed. Wings have given an impulsion skyward, and song has led us up higher still, near, very near, to the gates within which they are praising God day and night for ever and ever; and the echo which comes down to us from the white-robed throng of worshippers blends with the anthems of earth's winged singers, and the glorious refrain to the blended songs of heaven and earth is, 'Let everything that hath breath praise the Lord!'"

CHAPTER XVI.

HIGHER AND BRIGHTER, OR THE FIRST AËRIAL ROUND.

SOME professional duties having required the absence of Doctor Dean, there was an interruption of the weekly conversations, and the young men were left to spend their time as they felt disposed, which they did with rod, gun, and sketch-books, making extensive rambles through the neighboring forests. On Mr. Dean's return he found that the work had so far advanced at the brown cottage that it was now ready to receive its new owners. Hence it became one of his most agreeable duties to apprise them of their good-fortune, and to inform them that a few of the neighbors would come on the following day to move them into their new home. We shall leave it to the imagination of the reader to picture the surprise and joy which this news carried to the poor sufferers across the lake. Sufficient to state

that when the deed was placed in their hands it was a long time before the mother and Alice could be made to understand that the matter was a substantial reality—that the paper placed in their keeping was a *bonâ-fide* deed of the pretty brown cottage, all neatly furnished for their immediate occupancy. When it was all fully comprehended, they were fairly dazed with joy, while their tears and thanks became so profuse that Doctor Dean was fain to withdraw to avoid the overstrain of his own sympathies.

Now, it so happened that the two young friends were fishing on this selfsame day on the shore near the widow's cabin; and as Milton had been so much engaged as to prevent any arrangements for the intended visit, and their vacation was nearing its close, it was thought best to waive all formality and call at the Farleys' before they recrossed the lake. Accordingly, they landed near by, and were soon at the door of the shanty seeking admittance. As they entered they were at once aware that something unusual was taking place. The mother was seated by the lounge on which reclined her afflicted daughter, both locked in a

close embrace, Mrs. Farley holding a large envelope in her hands. As they stepped back, fearing that they were intruding on some family scene which should be kept sacred from strangers, the daughter arrested their steps by saying,

"Don't be frightened, gentleman, but please help yourselves to seats, for mother and I are so happy just now as to be a little flighty, I fear."

"Happy!" cried the mother, while both voice and frame were tremulous with emotion—"happy! yes, thrice happy! 'Bless the Lord, O my soul; and all that is within me, bless his holy name. Bless the Lord, O my soul, and forget not all his benefits. I will sing unto the Lord as long as I live. I will sing praise unto my God while I have my being,' 'who remembered us in our low estate: for his mercy endureth for ever!'—See this, gentlemen," she cried, putting the deed into their hands—"see this! We have a home once more, paid for and furnished, and to-morrow we are to move into it.—Oh, Alice, my child! my child!" she cried as she pressed her frail form to her bosom, "we have a home once more—a home! a ho—" and then her voice failed her from excess of joy.

"Excuse us, gentlemen," said Alice; "the news has been so sudden, and the transition so complete, as to put us quite off from our balance. It was only this morning that we almost gave up in despair. The cold weather is coming on, and we well knew that neither mother nor myself could live through the winter in this place, but how to secure a more comfortable abode we knew not. The poorhouse seemed to be the only way of escape left us; it was a terrible alternative, worse than would have been the grave, to which I began to look as the only refuge from suffering. But while we were yet talking of the dark prospect, our dear, good friend, Doctor Dean, came and put this paper in our hands; and do you wonder at our joy? Just think of it! We have a 'home, sweet home,' once more; and oh, may all the blessings which Heaven has to bestow fall with unceasing richness upon the kind friends who have done this deed of kindness to us! Oh, sirs, may you never know the pangs which we have suffered, but I wish you could realize a share of the happiness which we now feel; for I am sure that nothing this side of heaven can be sweeter, except the pleasure which they

must know who have done this heaven-like deed of kindness. Oh, that we knew who they are, that we might try and thank them for what they have done! But it would only be to try, for no language can express our deep gratitude."

"Yes," cried the mother, who had aroused again, "if the gratitude of a mother's heart and the unceasing prayer of a widow's lips will bring any blessing upon their pathway, then will they have a rich inheritance; and surely, 'Blessed is he that considereth the poor; the Lord will deliver him in time of trouble. The Lord will preserve him, and keep him alive; and he shall be blessed upon the earth.'"

We may have some conceptions of the emotions experienced by the young visitors during the passing of this scene; but it was plain that they were of a character to forbid long endurance; and so Davidson whispered to his friend, saying,

"Lew, this is too much; let us get out of this soon, or I shall break down."

It was evident that Rudolph was in the same state of mind as his friend, for he at once assented to the proposal to withdraw. Either by

agreement or tacitly, Davidson turned to Alice, and as he hastily said good-bye left a ten-dollar gold-piece in her hand, while Rudolph did the same by the mother; and both were out of the door before either recipient could fully realize what had transpired.

When once more by themselves it was some time before either could get self-control enough to give expression to his pent-up feelings. Finally, Rudolph broke the silence by asking,

"Well, Charley, what do you think of this day's experience? Do you expect that a few hundred dollars will ever pay you such a rich dividend as has your last investment?"

"Pray, Lew," was the emphatic answer, "don't use that term in such a connection. The prayers and blessings of two such women are beyond all human estimate; and I will confess that, though I am not a professor nor a possessor of their faith, I believe that still richer blessings will come in response to their supplication."

"I do believe you, Charley," was the reply; "but, whether that may be true or not, one thing is certain: I have never experienced any happiness compared with that I have this day felt; and the transaction fully settles my mind

as to the truths of the Christian religion as a guide in the pursuits of this life and an inspiration of the hopes in that which is to come. These facts of experience, Charley, have quite disposed of your logic, and you may have no more fears of my backsliding."

"Well, Lew," said Davidson, "there is some prospect that we may not turn out such great heathens, after all; but whether our improvement is most owing to Doctor Dean's teachings, or to our transactions with the widow and her angelic daughter, is not so clear. And, by the by, Lew, the success of our investment in this matter has settled my purpose to make another venture in the same direction. The poor sufferer Alice may not be beyond all hopes of restoration under the influence of skilful treatment and good nursing, and before I leave I shall authorize Doctor Dean to employ all possible means to effect such a result."

"Good for you, chum!" was the answer, "and if you will allow any partnership I will gladly take a share in the enterprise."

"No, thank you, Lew," said Davidson. "I know it would be a pleasure for you to aid in this good work, but this can be no partnership

business; I shall claim exclusive privileges in this instance."

"All right!" was the response. "I rather expected that you would be a little selfish in this matter; and may God give you complete success!"

When in the evening they met for the usual conversation they said nothing of the day's occurrences.

"In our lesson to-night," said Doctor Dean, "we shall pass the more familiar works of creation as seen in the animal races, and keep our feet on the ascending ladder. The flight of the birds left us in the air, and there we will hunt for our next beautiful round.

"In following the ascending scale of creative wisdom and goodness the last study left us far above terrestial belongings, with a strong desire for still higher revelations. With faces thus turned upward, we desire nearer and clearer views of the heavens that 'declare his glory' and the firmament that 'showeth his handiwork.' How sublimely true and grand are these divine statements, whether we consider the seen or the unseen glories which environ and canopy us!

Chemistry never applied its searching tests to a more wonderful compound than that which makes up the air we inhale, nor were there ever such glories filling mortal vision as those which Jehovah spreads in living colors of light over the cloudy canvas of the skies.

"Let any mind possessed of less than infinite wisdom attempt the composition of an atmosphere that shall be so ethereal as to penetrate the hardest substances, and yet so substantial as to furnish the material for all vegetable life and the vital nourishment of the animal kingdom. It must be so clear that it will not obstruct the vision; so attenuated that it will not baffle sound nor obstruct motion; and so pure that it can pass into the lungs and all parts of the animal system without pain or poison. Where would man find the elements for such a marvellous provision? And if found, who could write out the wonderful recipe, fixing the exact equivalents, and tempering all with such certainty that they will be proof against all the influences of earth's changes? The least lack or disproportion, and how terribly fatal!—burned up or blown up, poisoned or dissolved, reduced to cinder and ashes or transformed into a pun-

gent liquid, according as oxygen, nitrogen, or carbonic acid gas might be more or less dominant. Chemically or optically considered, no greater wonder ever comes under observation than the atmosphere. Chemistry deals with no greater marvel, nor does the eye ever look upon sights so transcendently sublime as those which blazon the morning and evening clouds.

"The atmosphere is as absolutely a substance as the rocks on which we tread; and, indeed, one essential element of the air, oxygen, makes up one half of the material globe. The difference is simply that in the rocks oxygen is chemically combined with other elements, while in the air it is only diffused. And how infinite wisdom and goodness shine conspicuous in these conditions—the Omnipotence that keeps them intact! In one state God uses the gas to build the rocky foundations of the globe, and in the other gives the breath of life to all creatures that dwell upon the face of the earth. Chemically, nothing is more prompt and fierce in action than oxygen; it rushes with fiery impetuosity into the embraces of every substance for which it has an affinity, but to its antagonisms it as stubbornly resists all fellowship,

putting as much space between them and itself as possible. To restrain its fierceness, God dilutes the quantity diffused over the surface of the earth with more than two-thirds as much of an inert gas, equally as repellant as the other. Composed of these elements, the air comes with a soft and delicate quickening to the panting lungs, truly the God-given breath of life to man.

"Free, the gases composing the atmosphere have a tenuity so fine that all means used to detect the ultimate molecule have utterly failed; yet they are so infinite in number, and have such a capacity of expansion, that they envelop the surface of the globe to a depth of forty or more miles. Soft and yielding, as we who move through them and inhale them with every breath know they are, yet their power of resistance to changes of temperature and pressure are wonderful almost beyond conception. Indeed, it was thought until quite recently that it was impossible to modify their gaseous conditions.

"We knew that the atmosphere exerts a pressure equal to sixteen pounds to the square inch, and that some of the gases had been

liquefied by the extremes of cold and enormous pressure; but it was not until the year 1878 that oxygen, hydrogen, and nitrogen were changed by the experiments of chemists from their gaseous conditions into liquids. This transformation required not less than the pressure of three hundred and twenty atmospheres, or more than five thousand pounds to the square inch, accompanied by a degree of cold equally as phenomenal. The number of cubic feet of these gases which can be compressed into the space of a square inch or two is wonderful. The facts above stated prove that the air we breathe is as absolutely material as the everlasting hills, the difference in density being one of the sublime marvels of Jehovah's goodness. In one condition, the rock-ribbed earth is bound in adamant; and in the other, the elements are loosed to go freely forth and give vitality to all who inhale them. The same infinite benevolence which first composed the wonderful aërial investiture of the earth is equally seen in its fixed and perpetual conditions. Cold or hot, wet or dry, calm or stormy, the atmosphere keeps its essentials exactly balanced, and thus secures the safety of all who inhale the breath of life.

"The processes of Nature are based upon grand laws of reciprocation and compensation, giving and taking as each may require, and ever keeping an evenly-balanced scale. She commits no frauds, nor enters into any wars for robbery or reprisals; she pays as she goes, and meets all drafts on her resources as soon as due. All this is true, because 'his work is perfect' who made all for his own glory, and who hath said, 'My glory will I not give to another, neither my praise to graven images.'

"Thus far, only the fixed elements of the atmosphere have been considered, leaving it yet incomplete for its divinely-intended purpose. In this state the earth would be surrounded by a viewless ocean of gas, through which the sun's rays would pass with unobstructed fervor, scorching with intense heat everything upon which they fell. Neither plant nor animal could exist under such fiery conditions. There must be some special provision to soften the solar beams as they draw near to the earth's surface, and quench something of their fierceness; and what finite mind could meet such contingencies? But with God nothing is perplexing or impossible. Listen to the sublime

fiat of the Almighty, which brings forth and potentializes the grand requisites: 'And God said, Let there be a firmament in the midst of the water, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament; and it was so.' The waters below were the great primal ocean, and the waters above, the 'thick clouds of the sky.' And what arm save that of Omnipotence could lift up this aërial ocean and send its cloudy waves surging over the whole face of the earth? Let it be remembered that water is more than eight hundred times heavier than air, and its pressure gives one of the mightiest forces known. By what machinery can the incomprehensible billions of tons of water be raised miles above the surface of the earth and held there floating in wreaths of vapory beauty? Eight parts of water, by volume, is composed of hydrogen gas, the lightest of known substances, and God bids his great sun-force to touch the invisible molecules of hydrogen, and they at once expand into balloons sixteen hundred times larger than they were before; and

thus there is continually shooting up from every ocean-surface an infinite number of these tiny watery globes to diffuse themselves among the fixed gases of the atmosphere, forming vapor of water. Unlike the elements among which these watery globes mingle, the moisture of the air constantly varies in form and quantity as circumstance may require, now condensed into storm-clouds, pregnant with thunderbolts and falling torrents, and now distilling in gentle summer rains or evening dews. Its form changes from the liquid drop into the driving hail or the fall of fleecy snow. How marvellous the work! and how sublimely expressed in the inspired word!—'When God uttereth his voice he causeth the vapors to ascend from the earth,' and 'there is a multitude of water in the heavens.' 'He bindeth up the waters in his thick clouds, and the cloud is not rent under them.' 'Dost thou know the balancing of the clouds, the wonderful work of him who is perfect in knowledge?'

"Considered simply as to intricacy of design and perfection of accomplishment, the atmosphere is perhaps the grandest exhibition of creative wisdom. It has ever been one of the

most fascinating studies to the scientist, and is as rich a marvel to-day as ever; and what other strange secrets it has, with which to reward the searcher, time alone can determine.

"Considered only in a material point of view, the adjustment of the atmosphere is a gift worthy of the divine Hand that bestowed it. It is the breath of every living thing and the essential of all vegetable growth. It comes with health-throbbings to the lungs, and fills our barns with plenty: Yea, thou hast visited the earth, and watered it from thy chambers; thou greatly enrichest it; the river of God is full of water; thou waterest the mountains abundantly; yea, thou makest the earth soft with showers; thou blessest the springing thereof; thou crownest the year with thy goodness, and thy paths drop fatness.

"But let it not be forgotten that the present study has a higher purpose than filling barn and stomach; the craving immortal soul is awaiting gratification. Our look is upward, and with such aspirations the storehouse is forgotten. The treasures now sought are undefiled by touch of earthly interest; they are reserved in heaven, and we are now seeking a foretaste of

our future inheritance by looking after those things which redound to the 'praise of his glory' who giveth the 'spirit of wisdom and revelation in the knowledge of him' who would thus make us 'know what is the hope of his calling, and what the riches of the glory of his inheritance in the saints, and what the exceeding greatness of his power to us-ward who believe, according to the working of his mighty power.'

"Dropping, therefore, the consideration of the utility of the atmosphere as being beneath our feet, let the contemplation be fixed on the glory and beauty which God has spread over the heavens above, the 'thick canopy of clouds,' the splendors of the 'bow of promise,' and the emblazoned purple and gold of the morning and evening skies.

"No eye is so dull as not to cast a wondering gaze at the glories that spread over the skies at the rising of the sun and hang over the west at its setting; and that heart must indeed be of cloddish mould wherein strange and deep emotions are not found upspringing at these contemplations. Alas! alas! how few ever become so impressed with the benevolence of him

who spread so much of his own glory over the face of the heavens as to be thrilled with the vision!

"The dull gray atmosphere which sometimes environs the earth gives assurance that existence is possible under such cheerless conditions. Clouds might form without a ray of silver lining, coronal of gold, or purple draping; rains might descend from the swart thunderclouds with no beautiful 'bow of hope' spreading over their lightning-rent faces to assure the earth that God had not forgotten his promise when giving such fearful proof of his power. The morning might have been cheerless, and the evening portentously gloomy—the one only calling forth to toil, and the other relieving from it by shrouding the weary earth in darkness and apprehension. These might have been earth's conditions, either by want of foresight or ability to provide for a brighter or happier adjustment; but, praise be to the adorable Creator! these are not the conditions under which we dwell. The rainbow is on the face of the storm-cloud, orient beams beautify the morning, and a radiance of surpassing grandeur hangs over the setting sun—a sublime in-

timation of the august scene when he who makes the whirlwind his chariot shall come 'in the clouds of heaven with power and great glory.'

"Philosophy comes with prisms and angles, talking very learnedly about vibrations, analysis, refraction, and how the bow is spread upon the threatening cloud; but it points out no pledge of divine remembrance, nor shows a single ray of that brightest of all reflections, the ineffable Love that said, 'Let there be light,' and at whose bidding 'there went up a mist from the earth' to make it fruitful, and furnish the vaporous canvas whereon he might reflect something of his own glory. The watery prisms of the cloud analyze the light-rays before they reach the earth, that they may carry with them the illuminated pledge of Infinite Goodness.

"There may be occasions when it may not be profane to touch the rainbow with a chemical hand, but it should ever be after the heart has glowed with the incense of gratitude and love; and the tongue should be vocal with praise to the Giver before it describes the nature of the gift. 'And God said, This is the token of the covenant which I make between

me and you and every living creature that is with you, for perpetual generations: I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth. And it shall come to pass, when I bring a cloud over the earth, that the bow shall be seen in the cloud; and I will remember my covenant, which is between me and you and every living creature of all flesh. And the bow shall be in the cloud. and I will look upon it, that I may remember the everlasting covenant between God and every living creature of all flesh that is upon the earth.'

"Oh, beautiful aërial pledge of Jehovah's mercy and gracious remembrance! how can one behold thee and not look higher than thy glowing arch? How can one delight in thy splendors, and not adore him who gave so brilliant a token to indicate the brighter glories and the infinite love of him who has a 'rainbow round about the throne' whereon he sits.

"Dark as the storm-cloud may be, and fierce as is the lightning-shaft with deep bellowing thunder, who would not thank him who spreads over the threatening elements so grand and brilliant a token of his mercy and guardianship?

'Triumphal arch, that fillest the sky
When storms prepare to part,
I ask not proud Philosophy
To tell me what thou art.

* * * *

For, faithful to its sacred page,
Heaven still rebuilds thy span,
Nor lets the type grow pale with age'
That first spoke peace to man.'

"When the scientist has succeeded in analyzing a ray of the sun's light, he finds spread on his screen the seven colors of the rainbow, and has discovered one of the wonderful laws of light; but his lesson too often ends just where it ought to begin. Reflection and refraction are but properties of light, and light-waves are the resultant of force; and these, acting together at a favorable juncture, produce the beautiful aërial phenomenon of the rainbow. But what are the laws of matter and the impact of force but the outworkings of a divine and benevolent intelligence? To comprehend the measure of these heavenly gifts a more careful observation must be given to some of the conditions involved. Think, on the one hand, of the fierce red light-shafts that would shoot, with inconceivable speed, from the sun, like fiery arrows of death,

if there were no vapory atmosphere to soften its beams; and, on the other hand, of the dull metallic gray clouds that would mantle the earth if reflection and refraction did not diffuse the light and paint on the vapory canvas their resplendent aërial pictures. What the flowers are to the fields and the birds to the groves, such are the rainbows and sunsets to the heavenly landscapes—God's grace in forms of beauty and loveliness to teach us the higher and spiritual purposes of Nature.

"The essential material wants of man are but few, and supplied with comparative ease by the ever-bountiful hand of God. A flock of sheep or a field of corn, an animal's skin or a coarse garment, a hut of bark or blocks of snow, and man can live.

> 'Man wants but little here below,
> Nor wants that little long.'

Turn now to the higher and more gracious provision for awaking the soul to impulses of delight and gratitude. In this God-like benevolence, how numberless and varied are the objects!

'Thou art, O God, the life and light
Of all this wondrous world we see;
Its glow by day, its smile by night,
Are but reflections caught from thee;
Where'er we turn thy glories shine,
And all things fair and bright are thine.'

"These divine tracings have been found gemming the rocks and sands, the ooze of ocean-bed and slimy pond; they abound in plants and animals, and float on the wings of bird and butterfly; and in grander displays we now contemplate them canopying the earth and spread all over the heavens. And still, as we stretch the gaze up toward the celestial world, where the great Giver of all this grandeur and glory dwells in light unapproachable, the pathway grows brighter and brighter, until it shall end in the presence of him who prayed, 'Father, I will that those whom thou hast given me be with me where I am, that they may behold my glory which thou hast given me.'

"Continuing the inspection of atmospheric phenomena, the *halo* arrests attention. Less brilliant in colors, and unassociated with the divine promise of remembrance, it is nevertheless, in some respects, of surpassing grandeur

from its richer completeness and its wintry background of snow and icy particles. Of rare occurrence, and confined to the more northern regions, it meets the eyes of the snow-bound inhabitants of those latitudes with a beauty and sublimity that must go far to reconcile them to their inhospitable climate.

"The halo is often seen in one or more perfect circles, with broken reflections at the top and base, and cross-bands of light through the centre. Try and imagine the exquisite picture. Beneath, lie the unbroken fields of snow; and above, the stainless masses of *cirrus clouds* are wreathed and motionless, as though some great spotless bird was presenting its white downy breast to the warm light of the descending sun. Gently, as though fearing to disturb the celestial bird, the soft shades of green, yellow, and red begin to appear in perfect circles, growing brighter and brighter until they reach the perfection in which they are so often seen, and seen never to be forgotten.

"Smaller, but often nearly as perfect and beautiful, the *parhelia*, or mock suns, are observed to the right and left of the sun. These beautiful phenomena occur much nearer the me-

ridian than the halos, and have therefore gratified and delighted more observers than the former.

"These glories of the atmosphere, however, are only occasional, and the last two mentioned so rare and local that few have ever enjoyed the opportunity of observing them; but there are aërial splendors which enrapture all eyes and give daily evidence of the divine goodness. The glories of morning and evening are God's benedictions to man, teaching him, as he looks upward to the radiant clouds, that the glory on the face of the heavens is but a feeble reflection of him who reigns above them. Having received the ascending Lord and wrapped him from human sight, and destined to restore him again to the expecting saints clothed with greater power and glory, the clouds seem to glow with unceasing emulation to reflect as much as possible of the glory of him who will make them his throne. Thus do they often quicken the hearts of those who are to be the recipients and sharers of the transcendent blessedness of his presence, where there is 'no need of the sun, neither of the moon, to shine in it, for the glory of God doth lighten it, and the Lamb is the light thereof.'

'When day, with farewell beam, delays
Among the opening clouds of even,
And we can almost think we gaze
Through golden vistas into heaven,
Those hues that mark the sun's decline,
So soft, so radiant, Lord, are thine!'

"When the dark and damp hours of night have hung gloomily over the earth, and the longing thoughts reach forward for the return of light, how greatly is the blessing enhanced by the radiance which overspreads the east as the herald of its coming! What an entrancing spectacle, to watch the transition from darkness to the full blaze of morning—first the earliest rosy tintings, then passing into soft silvery rays, growing brighter and brighter, longer and longer, until every shadow flees away and the whole landscape is glowing in the full refulgence of day! No wonder that at such a transition bird-songs fill the air with melody, the voices of flocks and herds have a cheerful tone, and the joyful whistle of the swain is heard as he 'drives his team afield,' while

'The milkmaid singeth blithely,
And the mower whets his scythe.'

"The brightness of the morning gives place

to the ever-varying atmospheric changes of the day. If clear, the soft blue mist hangs along the mountain-slopes and distant hills, lending 'enchantment to the view' and mitigating the glare of the noonday. Perchance, great fleets of fleecy clouds lie slumberous along the horizon, or darkly sweep over the heavens and fly on the wings of the wind, hurtling against each other, and thunder-rent amid the crash and roar of heaven's artillery. What sights for the astonished eyes and the vivid imagination! What a relief are these constant variations and atmospheric changes to the fierce solar light and heat, and also to the monotonous blue of the bare skies!

"But it is when the glare of day is past, and storms have ceased to rage, and evening calmness approaches, that God's great benison of the clouds is revealed. What a sweet change from the fierce red rays of the noontide when mellow evening begins its gorgeous illumination! All Nature seems to grow tranquil under the influence, as though conscious that a heavenly vision is about to greet the earth. The winds cease to rage, bird and beast put on a gentler mood, and the pensive landscape seems

to wait with conscious joy the celestial overshadowing.

"Of all earthly magnificence, the gorgeous summer sunsets have furnished the sublimest scenes for contemplation, and given to the imagination its grandest field of enjoyment. Earth has no splendor worthy of comparison, and the enraptured beholder can only on the wings of imagination ascend above the glowing clouds and picture the glories of the celestial world. What strange and sudden transitions are seen in the evening clouds as each new angle of light marks the declining sun! And when the last beam fades away, it is like the dropping of a celestial curtain, hiding a scene that is seemingly rather of heaven than of earth. A summer sunset is a spectacle that surpasses description,

> 'And who would that expound which words transcends
> Must talk in vain.'

"As we have looked upon the glowing heavens we beheld

> 'The splendid scenery of the sky,
> Where through a sapphire sea the sun
> Sails like a golden galleon
> Toward yonder cloudland in the west,
> Toward yonder Islands of the Blest.'

"Bless God for the gift of eyes, and for the spectacle of unearthly beauty which he spreads over the heavens; but if the glory which fills the eyes does not awaken gratitude within the heart, the heavens should rebuke us for our dulness.

"But

> 'Now comes still evening on, and twilight gray
> Hath all things in its sober livery clad.'

The sun is down, and the glory that so recently made gorgeous the west has faded away; and has the hand that traced the wondrous pictures and hung them over the evening skies exhausted its skill in the effort, and left the night to gloom and darkness? No; the same goodness that gilded the morning and purpled the setting sun has put upon the brow of night a 'crown of glory' and a 'diadem of beauty,' that he might give us 'songs in the night.' In our next study let us try to get the keynote of this night-cheering anthem.

"In bidding you good-night," added Doctor Dean, "I have the pleasure of inviting you to the brown cottage to-morrow evening to give a welcome to its new tenants."

CHAPTER XVII.

GLIMPSES FROM THE TOPMOST TERRESTRIAL ROUND.

FOR reasons which will be obvious to the reader, Davidson and Rudolph did not attend the moving of the widow into her new home; and so at their next meeting Doctor Dean said:

"As you were not at the moving of the Farleys, I must discharge a commission which I received from the widow and daughter to thank you in their behalf for your very generous donation the other day. It was much of a surprise to me, as I had no intimation that you had made them the intended visit. Your gift was liberal and timely, as it will enable the family to procure several necessary comforts in their new quarters. But, warm as were their thanks for the favor of that visit, I am made the bearer of far deeper gratitude to the dear friends

whose great liberality gave them their new and comfortable home. I was told to send these benedictions to the vicinity of Boston, where it was supposed these true friends resided; but perhaps I shall not violate the spirit of my commission if I shall stop short of that locality, and give the blessings to certain other persons I wot of. Suffice to say, my young friends, that two more grateful hearts never beat, nor did human lips ever implore richer blessings to rest on a benefactor than were invoked in your behalf, though unknown by name to the grateful suppliants. I am sure that if you could have heard the outpourings from the hearts and lips of those happy women, you would have been more than repaid for your outlay, liberal as it was. I have neither the language nor manner to express to you the fervency of their gratitude."

"Thank you, doctor," said Davidson, "but perhaps we were most unwilling listeners to something like it when we visited the family the other day, and are very well satisfied to let that suffice for the past; but, while this subject is up, I may as well arrange another little matter which I have been considering. Hoping that

something may be done by proper medical attention and care for the relief of the poor afflicted daughter, I wish to commission you to take whatever steps may give most promise of success. Employ such physicians as you may deem most skilful, and secure any other persons or means which may be thought requisite, and send all bills to me, and they will be duly honored."

"Why, my dear young friend," said the truly astonished doctor, "your proposition does honor to your head and heart, and I have no language to express my admiration of such a generous deed. Be assured that I gladly accept the pleasing duty which you lay upon me, and with the greatest confidence that he who has inspired your heart to this noble purpose will bless it with complete success."

"As my friend," interposed Rudolph, "will not share with me the pleasure of caring for the daughter, you may draw on me for such aid as the mother may require to keep her from suffering."

"Thanks, double thanks to you both," replied the doctor; "the gratitude of both mother and child will be beyond expression."

"But now, as we have but two or three evenings more to spare in striving to climb our beautiful ladder, let us turn to the question of the evening; and our preparation has given us a happy impulsion in the direction of our contemplation.

"A night of rayless gloom was one of the most terrible judgments brought upon the guilty oppressors of Israel. There was 'thick darkness in all the land of Egypt for three days; they saw not one another, neither rose any out of his place for three days.' Of all the plagues with which Egypt had been smitten, this one produced the greatest effect on the obdurate monarch, though not sufficient to overcome his avarice.

"Now, to envelop the earth in a similar night of dread it would only be necessary to withdraw all the watery vapor from the atmosphere, so that the diffusion and refraction of light would be suspended. Then, when the sun went down on any part of the earth, a horror of darkness would seize upon it. What a blessing God conferred upon the world when he caused the 'vapors to ascend from the ends of the earth,' to make the heavens glow with the gold and

purple of the setting sun! And when the celestial tabernacle is folded up and hides the fading glories of the west, the same beneficent Hand drops a silvery radiance over the landscape as the moon comes forth to reflect its borrowed rays and the stars take their places in the coronal of night.

"In beautiful and sweet contrast with the brighter radiance of the day, the soft, calm glow of a summer night is truly entrancing. Horror and dread are lifted from the night hours, and the departing sun is seen without regret and painful forebodings. But with these scenes you are familiar, and they may be passed without more special mention, while attention is directed to other glories of the night.

"Few ever enjoy the rare opportunity of observing a *lunar rainbow*, but whoever has been thus richly favored will never forget the occasion. This phenomenon is produced by the same general laws that give the brighter solar glory to the skies, but the conditions are so varied as to give a softer and milder picture. It does not follow the wake of the black thundercloud, watching for a rift through its darkness for the soft beams of the moon to

tint the threatening face with a beauty that may mitigate its terrors. The night must be calm, the moon full and bright, and the atmosphere hung with a misty veil of suitable texture. When there is a juncture of these conditions, then, over some placid valley sleeping beneath the moonbeams, the coy visitant comes softly and chastely forth. Her garments are inwoven with mild pencilling of dyes, generally red, green, yellow, and sometimes blue, so delicately blended as to charm the eye that gazes upon the queenly visitant.

"This beautiful phenomenon has been very aptly called the 'Iris of the night;' and it is to be regretted that it is not oftener seen adorning the lunar landscape. In threescore years, with much careful observation, and a part of the time under most favorable conditions, only three of these lunar wonders have been observed by me; but for these special favors most devout gratitude is felt. My eyes were enriched by the sight, and new conceptions of creative wisdom were impressed upon mind and heart. The tongue can say with a greater emphasis, 'He hath made everything beautiful in his time.'

"There are many other beautiful phenomena

of the atmosphere which might engage attention, such as the *Spectre of the Brocken*, the *Ulloa circle*, and the wonders of the *mirage*, but these may be passed; and, in doing so, an ascent is made that fairly carries the observation above the clouds, touching on the borders of celestial wonders. Another upward soaring, and the boundaries of terrestial things will be passed, and the marvels of astronomy fairly begin. Beyond this elevation only one other ascent can be made—to the presence of him who is ever 'dwelling in the light which no man can approach unto; whom no man hath seen nor can see; to whom be honor and power everlasting. Amen.' When this superlative height is once attained, there is no beyond nor aught to be revealed. He is the 'Alpha and the Omega,' the 'beginning and the end.'

"But let us resume our upward searchings, and peradventure we may in the effort reach that august presence where 'there is fulness of joy.'

"The glories of the *aurora borealis*, or 'northern lights,' have charmed all beholders; but, like many other of God's gifts, they were long objects of superstition and terror, rather than incentives to wonder and adoration. They were

supposed to presage some wrathful visitation, instead of revealing in brighter rays new depths of infinite love. To science we must award the praise of divesting these brilliant illuminators of the night of their robes of terror, by showing the causes of their appearance. These nocturnal diplays are among the most sublime manifestations of atmospheric electricity. This mysterious force is so commonly associated with thunderclouds and tornadoes and the sharp red bolts of lightning, that it is hard to throw off the dread impression, and contemplate the same agency working its harmless glories in the still hours of night, silently and mildly draping the heavens with tongues of flame and coruscations of pink and rosy light. Entrancingly beautiful, what a spectacle is furnished to the beholder as the lambent glories move in gorgeous evolutions over the heavenly plains! Now the sky is overspread with a draping of gold, rose-tints, and purple, and now with tongues of silvery flames, shooting up from the horizon or hanging pendent from some cloudy convolution. The higher the northern point of observation, the richer are the auroral displays.

"A French explorer along the shores of Spitzbergen thus describes what he saw, and one cannot but marvel at the goodness of the Creator in so ordering it that these bleak regions, where an unbroken night hangs over the scene for one-fourth of the year, should be robbed of much of their dark and frigid terrors by these brilliant exhibitions. The writer says:

"'At times they are simple diffused gleams or luminous patches, and at others quivering rays of pure white across the sky, starting from the horizon as if an invisible pencil were being drawn over the celestial vault. At times it stops in its course; the incomplete rays do not reach the zenith, but the aurora continues at some other point; a bouquet of rays darts forth, spreads out into a fan, and then becomes pale and dies out. At other times long golden draperies float above the head of the spectator, and take a thousand folds and undulations, as if agitated by the winds. They appear to be but at a slight elevation in the atmosphere, and it seems strange that the rustling of the folds, as they double back on to each other, is not audible. Generally a luminous bow is seen in the

north; a black segment separates them from the horizon, its dark color forming a contrast with the pure white or bright red of the bow, which darts forth the rays, extends, becomes divided, and soon presents the appearance of a luminous fan, which, filling the northern sky, mounts nearly to the zenith, where the rays, uniting, form a crown which in its turn darts forth luminous jets in all directions. The sky then looks like a cupola of fire; the blue, the green, the yellow, the red, and the white vibrate in the palpitating rays of the aurora.'

"Captains Kane and Ross, and other Arctic explorers give similar grand descriptions of these gorgeous polar illuminations, which almost, one would say, overbalance the terrible exposures and dangers which are met by those adventurers who advance into those ice-bound latitudes.

"A residence of two winters at the foot of Lake Superior afforded me an opportunity to behold some auroral displays which must have approximated to the glories of those witnessed by these adventurers. The brilliant pink and rosy hues which the auroras at times present were often marked; and when these bright

colors were reflected on the stainless snow-banks of the region, the effect was surpassingly beautiful. Another peculiarity observed was a unique band or ribbon of silvery light spanning the heavens at the zenith, with the occasional addition of a secondary one on the side nearest the North Pole. The outlines were as distinct as the edge of a ribbon, nor was there any fluctuation of light except when it faded away as softly as it first waxed into fulness.

"We could not close this part of our subject without calling your attention to the following very graphic description of an aurora from Mr. George Kennan's *Tent-Life in Siberia.*

"Imagination certainly could not conceive of any scene more gorgeously sublime than that auroral picturing which Jehovah then spread on the northern skies; and Mr. Kennan, though unusually gifted with descriptive powers, says of his attempt to portray this heavenly magnificence, 'I have given only faint hints, which the imagination of the reader must fill up. But be assured that no description, however faithful, no flight of the imagination, however exalted, can begin to do justice to a spectacle of such unearthly grandeur.' Here is his attempt to

set forth this 'glory of the Lord which is terrible:'

"'It was a cold, dark, but clear winter's night, and the sky in the earlier part of the evening showed no signs of the magnificent illumination which was already being prepared. A few streamers wavered now and then in the north, and a faint radiance, like that of the rising moon, shone above the dark belt of shrubbery which bordered the river; but this was a common occurrence, and it excited no notice or remark. Late in the evening, just as we were preparing to go to bed, Dodd happened to go out of doors for a moment to look after his dogs; but no sooner had he reached the outer door of the entry than he came rushing back, his face ablaze with excitement, shouting, "Kennan! Robinson! come out, quick!" With a vague impression that the village must be on fire, I sprang up, and without stopping to put on any furs ran hastily out, followed closely by Robinson, Harden, and Smith. As we emerged into the open air there burst suddenly upon our startled eyes the grandest exhibition of vivid dazzling light and color of which the mind can conceive. The whole universe seemed to be on

fire. A broad arch of brilliant prismatic colors spanned the heavens from east to west, like a gigantic rainbow, with a long fringe of crimson and yellow streamers stretching up from its convex edge to the very zenith. At short intervals of one or two seconds wide, luminous bands, parallel with the arch, rose suddenly out of the northern horizon, and swept with a swift and steady majesty across the whole heavens, like long breakers of phosphorescent light rolling in from some limitless ocean of space.

"'Every portion of the vast arch was momentarily wavering, trembling, and changing color, and the brilliant streamers which fringed its edge swept back and forth in great curves, like the fiery sword of the angel at the gate of Eden. In a moment the vast auroral rainbow, with its wavering streamers, began to move slowly up toward the zenith, and a second arch of equal brilliancy formed directly under it, shooting up another long serried row of slender colored lances toward the North Star, like a battalion of the celestial host presenting arms to its commanding angel. Every instant the display increased in unearthly grandeur.

The luminous bands revolved swiftly, like the spokes of a great wheel of light, across the heavens; the streamers hurried back and forth with swift, tremulous motion from the ends of the arches to the centre, and now and then a great wave of crimson would surge up from the north and fairly deluge the whole sky with color, tinging the white, snowy earth far and wide with its rosy reflection. But as the words of the prophecy, "And the heavens shall be turned into blood," formed themselves on my lips, the crimson suddenly vanished, and a lightning-flash of vivid orange startled us with its wide, all-pervading glare, which extended even to the southern horizon, as if the whole volume of the atmosphere had suddenly taken fire. I even held my breath a moment, as I listened for the tremendous crash of thunder which it seemed to me must follow this sudden burst of vivid light; but in heaven or earth there was no sound to break the calm silence of night, save the hastily-muttered prayers of the frightened native at my side as he crossed himself and kneeled down before the visible majesty of God. I could not imagine any possible addition which even the Almighty power could

make to the grandeur of the aurora as it now appeared. The rapid alternations of crimson, blue, green, and yellow in the sky were reflected so vividly from the white surface of the snow that the whole world seemed now steeped in blood, and then quivering in the atmosphere of pale, ghastly green, through which shone the unspeakable glories of the mighty crimson and yellow arches. But the end was not yet. As we watched with upturned faces the swift ebb and flow of these great celestial tides of colored lights, the last seal of the glorious revelation was suddenly broken, and both arches were simultaneously shivered into a thousand parallel perpendicular bars, every one of which displayed in regular order, from top to bottom, the seven primary colors of the solar spectrum. From horizon to horizon there now stretched two vast curving bridges of colored bars, across which we almost expected to see, passing and repassing, the bright inhabitants of another world. Amid cries of astonishment and exclamation, "God have mercy!" from the startled natives, these innumerable bars began to move, with a swift dancing motion, back and forth along the whole extent of both arches,

passing each other from side to side with such bewildering rapidity that the eye was lost in the attempt to follow them. The whole concave of heaven seemed transformed into one great revolving kaleidoscope of shattered rainbows. Never had I dreamed of such a rainbow as *this*, and I am not ashamed to confess that its magnificence at that moment overawed and frightened me. The whole sky, from zenith to horizon, was one molten, mantling sea of color and fire, crimson and purple, and scarlet and green, and colors for which there are no words in language and no ideas in the mind—things that can only be conceived while they are visible.'

"Whatever other hidden purpose these aërial displays may have in the economy of Nature—whether to vitalize the atmosphere or to give cohesion and vigor to the earth—the divine benediction in these wonders of the heavens cannot be overlooked nor forgotten unless by the gross and insensible. It must, indeed, be an 'evil eye' that cannot see the 'beauty of the Lord' when it is blazoned all over the face of the sky.

"The ascending scale thus far pursued has

been one of earthly leading; but we have now reached the end of terrestrial guidance. In any attempts at further ascent a new pilotage must be sought, one whose commission and capabilities are from a higher source. Looking upward from our highest earthly altitude, the eye is attracted by some brilliant wanderers of the skies, whose mysterious birthplace is beyond the ken of human observation, and who are known only by their flash and explosion when they touch the borders of our atmosphere.

"The gazer into the starry depths of night is also often startled by the fiery trail of the *shooting stars*. More or less of these luminous visitors are seen during every still and cloudless night, being most numerous during the winter season, except on the return of special occasions, when, during the months of October and November, the earth passes through a region where they seem to exist in a perfect storm of blazing orbs. It was my good fortune in 1833 to see at St. Marie's, in Michigan, that extraordinary shower of shooting stars which so attracted the notice of astronomical observers. From about nine in the evening till past three o'clock in the morning the heavens were in one continual blaze.

As many as sixty in an hour were counted, or one each minute. Some of these blazing wanderers were of great magnitude, and passed through the skies with a hissing, rushing noise, like a large rocket, and with a similar detonation as they exploded, sending off a fiery rain as they did so. These statements can be relied on as strictly true, as it was made the special duty of the observer to watch the phenomenon and make a detailed entry in a record that was to be forwarded to the government at Washington.

"A large camp of Indians was located in the neighborhood, and the startling influence of this splendid phenomenon on their untutored minds was soon manifest by the beating of the sacred drum and the attending wail of the medicine-men. The whole village was put into the wildest uproar, and so continued until the light of the following morning. Nor was the effect any the less powerful over the minds of the ignorant and superstitious half-breeds and Canadians who made up the villages on both sides of the river. In the morning they crowded around the house of the priest, each one eager to secure some relic or charm that would give security against the expected calamity.

"This state of things was but an illustration of the general misconception that once characterized the mass of society, by which the works and providences of God were perverted, changing into tokens of wrath what were sent as expressions of his benevolence.

"Whence these fiery orbs came, and what they really are, the learned have not yet decided. They may be fragments of some exploded planet or star, the condensation of some mighty nebulosity or gaseous accumulation; but, be this as it may, there are other shooting aërolites from unknown regions with whose substance science is well acquainted. Like the above named, these luminous visitors probably come from some unknown sphere beyond the orbit of our earth, and we are thus put on a reversed track which leads us far away from mundane surroundings.

"The *bolides*, or aërolites, are largely composed of iron. Different from the shooting stars, which explode as soon as they touch our atmosphere, these aërolites pass with a fiery trail to the earth, where they bury themselves with a loud explosion, and with a degree of heat that makes the ground smoke for days afterward.

Flammarion, in his admirable work on the atmosphere, thus describes one of these strange visitations:

"'The sky was suddenly illuminated by a meteor, which looked like a burning ball with a long train of fire in its track. It emitted a bright light of a pale greenish hue, and lasted for six or ten seconds. Its disappearance was preceded by an explosion and by the simultaneous projection of flaming fragments, while there remained for some time after a light and whitish cloud. This was followed by a continuous noise, like the distant rolling of thunder, then by three or four detonations of extreme violence, which were heard at points distant fifty miles from each other. Immediately after these detonations the inhabitants of Sanguis-Saint-Étienne heard a hissing noise, like that made by red-hot iron when it is plunged into water; then a dull sound, indicating the fall of a solid body to the ground. The mass had fallen at about thirty yards from the church of Sanguis, in the bed of a small stream, and was scattered into fragments.'

"One of the largest and most curious aërolites is found in the Smithsonian Institution at

Washington. It is largely composed of iron, and so pure that it shows the bright metal when cut with a chisel or file. It was evidently in a fused state when it was hurled to our earth. Some have let imagination dwell on the strange story which the Egyptian mummy that stands near this aërial visitant could tell; but what would be the tale of his short life on this planet to the sublime unfoldings of this wanderer through infinite space for—who knows how long? or from whence his setting forth began? Nay, dumb as it is, it speaks of a far-off world, to which the astronomer has never stretched his line, and of which he has not caught the faintest glimpse even through his marvellous glass. And has it come only to unfold to this astonished and listening world the wider range of the reign of chance and the vagaries of natural laws and selection? No, no; its sublime teaching is, he is there who can 'bind the sweet influences of Pleiades, or loose the bands of Orion,' who bringeth 'forth Mazzaroth in his season,' and who can 'guide Arcturus and his sons.' He is there who 'rideth upon the heavens by his name JAH.'

"Following inversely the trail of the aërolites,

no stopping-place will be found until we strike the pathway of the moon; but she is too insignificant to delay our upward flight. Onward and upward be the aspiration until, bathed in the light of the stars and lost in the infinite, there will remain only one refuge for rest and security. 'Is not God in the height of the heaven? and behold the height of the stars, how high they are?' This was the goal of our starting; and every waymark has been carefully scrutinized to enable us to keep the straight and narrow path. Having safely reached the glorious altitude we were seeking, we drop all guidance. All wonder is lost in him who is 'WONDERFUL,' and created beauty has no radiance when standing in the presence of the 'King in his beauty.' Ravished by that beholding, the cry of every devout heart will be, 'Whom have I in heaven but thee? and there is none upon the earth that I desire beside thee.'

"When the angels descended on the heavenly ladder which Jacob saw, it was to bring to him a blessing in a clearer recognition of God's special care and goodness — a blessing which so quickened him that he devoutly set up an altar and worshipped; and we shall profane our beau-

tiful ladder if, descending from the heights to which we have ascended, we shall do less than thus to adore him whose presence has been so strikingly manifest from the lowest step to the topmost round; and so, as a fitting conclusion to our evening's study, let us devoutly sing:

'All hail the power of Jesus' name!
Let angels prostrate fall;
Bring forth the royal diadem,
And crown him Lord of all.'"

When this glorious old anthem of Christian worship had been sung, all bowed while Doctor Dean poured forth the grateful homage of their hearts to the Giver of all good as seen in the glorious works of his hand and the greater marvels of his grace.

When the young men had taken their leave Milton said to his sister Minnie,

"Well, sister mine, how do my young friends stand in your opinion by this time? They are not the greatest heathens, after all, if I am any judge."

"How do they stand? Why, either Mr. Davidson is marvellously changed, or his views and actions are very far apart, for he has done a most

magnificent thing for the Farleys, and Mr. Rudolph is not far behind him."

"I am not very profound," said the brother, "in my knowledge of human character, and father can correct me if wrong; but, as a general thing, principles and actions are not apt to be so far apart as you seem to indicate they may be in the case of Mr. Davidson."

As this remark seemed to be an appeal to the father, he answered by saying:

"Bad men sometimes do things that may be good in themselves, but you are correct, my son, in the general principle, and certainly so in the present instance. When we first became acquainted with our young friends, they could hardly be charged with having any settled views of life or duty, and hence our efforts to give them some help in the right direction; and it has been a matter of great satisfaction to trace a gradual and hopeful progress. I regret that their early return to college will bring our interviews to a close sooner than I could wish; but let us hope and pray that the good seed will not remain long dormant nor prove unfruitful."

"Why, father," said Ella, "if nothing more comes of it, I am sure that what they have

done already will pay a thousand times for all our efforts; and, besides, I am persuaded that the relish they have already in doing good will remove all desire to waste their lives in idle loiterings or trifling amusements."

"I am quite sure that you are right in that conclusion, sister," added the brother, "for I happen to know that they return to their studies with firm resolves to make the best possible use of their opportunities; and when they form such a purpose it means something."

"Well," said the father, "let us thank God for the past, and hope and pray for a greater blessing in the future; and so we commend them to God and the word of his grace."

CHAPTER XVIII.

THE ALTAR AND THE SACRIFICE.

THE little company that had spent so many happy hours in the cozy library at Willow Brook were assembled for the final interview. Doctor Dean opened the conversation by remarking:

"It is with no ordinary emotions that I meet you this evening to bring to a conclusion the efforts made to get a clearer insight into the works and purposes of Jehovah. Time has allowed us opportunity to touch but the borders of creative skill, and has confined us to a few rounds of that ascending pathway which has grown brighter and brighter at each upward stepping, though you have had such very imperfect guidance all the way. Indeed, I may have quite failed of my purpose, leaving us to part company with but little or no advance in true knowledge of Nature's wonderful lessons. Be this as it may, I can assure you that the

effort has been kindly and earnestly made, and I have used all the resources at my command. Whether success or failure will mark the close of our interviews, it now only remains for me to try and fix the beautiful moral lessons of the studies which we have been pursuing. Standing on the altitude reached, it is only left us, as most fitting, to erect our altar and lay the sacrifice thereon, and worship him whose 'glory is above the earth and the heaven.'

"'God created man in his own image, in the image of God created he him.' This crowning act of Jehovah's creative power has a significance beyond the stretch of human comprehension. The mysteries, possibilities, gifts, and graces which were then made a part of man's inheritance have never been fully understood, though they have ever been contributing to the cup of life's happiness. Though the outward human form may be considered as the masterpiece of heavenly wisdom and skill, yet the perfectly moulded clay bore no visible semblance to the Almighty Artist. The gifts which made man God-like were of a higher order; they were not of the earth, earthy, but superlative benedictions from heaven. They quickened the

earthly elements not only with power to move the muscles and tone up the senses, but were also the inbreathing of those higher and nobler attributes which enable man to act, reason, love, and even aspire to a close fellowship with him who thus graciously threw the shadow of his own nature over the humble creature of his hand.

"It has been beautifully said that the 'visible creation was but a thought of God.' This saying is only the embodiment of the scriptural statement, 'that the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead.' The study of the works of Nature, therefore, if properly pursued, is but a striving to comprehend more and more of the wonders of the Divine Mind and the infinite riches of God's goodness. Too often, alas! like the poor deluded idolater, men go into raptures over the productions of human genius, and pay fabulous prices for their imitations of the handiworks of God, while they are wholly insensible to the beauties of the divine originals, and withhold all homage from him who adorns heaven and earth with beauty

and glory. They can recognize the skill that covers the canvas with some near similitude of Nature's picturings, but are too dull to see the work of the infinite Hand that covers the hills with living glories and spreads over the clouds something of the Creator's own radiance. Such sluggish observers grossly profane Nature and dishonor the Creator; they squander the highest possibilities of happiness, and go back to dust with the great purposes of life unrealized.

"Nothing less than a complete restoration of the divine image will satisfy the longings of a truly enlightened soul. 'I shall be satisfied when I awake in thy likeness' is the unceasing, longing cry of such a spirit. To 'see through a glass darkly,' to 'know but in part,' are restraints on complete happiness from which the aspiring soul longs to escape. To 'be like him,' to 'see him as he is,' to 'know as we are known,' to be 'made perfect in love,' constitute the heaven to which the soul is seeking to climb, where perfect bliss will be found in beholding the 'beauty of the Lord' in the face of Jesus Christ, the 'brightness of the Father's glory and the express image of his person.'

"If devoutly led, we are often filled with rap-

turous astonishment at the number of heavenly vistas which will be opened unto us. Quite often they open up unexpectedly by the wayside, or from the pillar of stone on which we have sought rest, sad and wayworn. The first round of the ladder may be near to the earthly foot-resting, but ever and surely it leads up to the brightness of a heavenly communion if we but follow the angelic guidance which is ever attendant. Blessed with such sweet visions, we shall learn to unsandal our feet where we have often been walking unconscious of the Holy Presence which consecrated the path we were treading. On the way to the earthly Canaan the Egyptians and the Israelites looked upon the same cloud; but to the one it was the blackness of darkness, while to the other it was the glorious Shekinah of Jehovah's presence. And thus it will be with all searchers. If the look is earthward, the darkness will hide all in a pall of doubt and death; but whenever and wherever the contemplation is Godward, the path will be radiant, leading into clearer light and serener happiness, until that presence is finally reached where there is 'fulness of joy.'

"The radiant ladder which we have been as-

cending had its foot resting in the dull ooze of a frog-pond, dull only till our eyes were unsealed to behold its hidden marvels. Step by step, as its rounds have been climbed, the revelation has grown brighter and brighter, until a blaze of glory has been reached which the dazed vision cannot penetrate. Yet to what the ascent leads is as surely known as the resting-place of its foot which has been examined so carefully. It conducts upward to the throne and presence of Jehovah himself.

"During the progress of the ascent we have never paused to ask, 'What shall it profit?' Purse and scrip have been left behind. No need has been felt for the one nor attempts made to fill the other. Even the insatiate cry of Science, 'What is it?' has not been the burden of our inquiries. A higher purpose and joy has guided all the way along. The divine presence and goodness have been sought in every research, from the invisible mote in the water-drop to the incomprehensible majesty of the heavens; and everywhere and in everything infinite skill and beneficent wisdom have been gloriously manifested.

"And have the more mundane searchers, who

began their investigations with us with only the inquiries on their lips, 'What shall we eat?' and 'What shall we drink?' or 'Wherewithal shall we be clothed?' had a brighter pathway or reaped a richer harvest? Have their treasures, laid up on earth, the value and security of those which are incorruptible and undefiled, and that fade not away, reserved in heaven? And do their hearts who still cleave to the earth, and who can see no value in anything which does not bring a present sensual happiness, feel the pure and exultant joy and hope of those who, in a loving communion with Nature, have a prelibation of celestial blessedness?

"Our absorbing aspiration, in all our research, has been, 'Oh, that I knew where I might find him, that I might come even to his seat!' Nor has our devout aspiration been repelled by delay or disappointment; but at every new stage of advance the glad recognition has been, 'Surely the Lord was in this place,' and he hath made it a gate of heaven. With hearts thus inspired and panting upward, the lips can repeat the burning words of one of the most devout students of Nature and most eloquent setters-forth of the wonders and maj-

esty of God seen therein: 'Every time you go forth under the open sky, be it cerulean or be it overcast, let it be to you an eternal beckoner upward. . . . In yon measureless, ever-receding dome you will ever find a limitless, an exhilarating arena for all that in you is most noble and stout and true and Godward. Every time, then, that you go forth under heaven's arch accept the sky as life's real meaning. On its azure, ever-lifting, infinite vault evermore read the sun-emblazoned legend, Excelsior.' Yes, that is the sublime lesson—higher, ever higher; craving, ever craving, as the cry still goes up to the throne of All Goodness, 'I shall be satisfied when I awake with thy likeness."

'Oh, glorious hour! oh, blest abode!
I shall be near and like my God,
And every power find sweet employ
In that eternal world of joy.'

"Though still for a season the Eternal Father must be contemplated as enfolded in his ineffable glory, unapproachable and impenetrable, in the ever-present Shekinah which has illuminated all our upward soaring our eyes have seen the glory of the Lord. So ravishing has been the

sight that the lessons of beauty and wonder which Nature teaches are bedimmed, and therefore we drop our further searching. It is time now to build the altar and get ready the sacrifice and the fire—to tune the harp and heart, and catch, if we can, the keynote of Nature's doxology. The anthem began 'when the morning stars sang together, and all the sons of God shouted for joy.' From that hour Nature has kept up the sublime chorus. Some stop their ears and will not hear, some are so dull that they hear but an uncertain sound, and some are so absorbed in lower desires that they hear but a faint echo at uncertain intervals; but whoever listens with quickened soul catches the clear swelling anthem coming up from all the round of creation: 'Praise ye the Lord from the heavens; praise him in the heights. Praise ye him, all his angels; praise ye him, all his hosts. Praise ye him, sun and moon; praise him, all ye stars of light. Praise him, ye heavens of heavens, and ye waters that be above the heavens. Let them praise the name of the Lord; for he commanded, and they were created. He hath also stablished them for ever and ever; he hath made a decree which shall not pass.

Praise the Lord from the earth, ye dragons, and all deeps: fire, and hail; snow, and vapors; stormy wind fulfilling his word; mountains, and all hills; fruitful trees, and all cedars: beasts, and all cattle; creeping things, and flying fowl; kings of the earth, and all people; princes, and all judges of the earth: both young men, and maidens; old men, and children: let them praise the name of the Lord; for his name alone is excellent; his glory is above the earth and heaven.' Amen and Amen!"

"On the mountains of rapture we've lingered so long,
It glows in the features and breathes in our song;
Oh, had we the wings of a swift-flying dove,
We would hasten away to the banquet of love.

"Up near to its gates our bright soaring has been,
Our souls through its portals for a moment passed in;
There beauty celestial in full radiance shone
O'er fields of delight and the burning white throne.

"Though costly the pearls in the crowns of the great,
Far richer are those in its outermost gate;
And gold, to the heart of the miser so sweet,
A pavement is spread for the shining ones' feet.

"How sweet through its openings to catch the soft beam
That brings to the spirit a ray of that dream!
That relish of sweetness, once tasted above,
Has ravished the soul for the mansions of love."

When Doctor Dean closed his remarks there was quite an interval of silence, as though there was a reluctance to break the spell, but finally Davidson said:

"Doctor, you will believe me when I say that we have no language in which adequately to thank you for the deep interest which you have taken in our welfare and the exceedingly interesting lessons which you have so kindly given us. It is to our shame that we must confess that when we first formed your acquaintance we had been led into gross errors as regards both the ends of knowledge and the purposes of life. Study was a burden and life an aimless thing. Our thoughts had been how soonest to escape the one, and foolishly to squander the other. Although we are not prepared to express any positive acceptance of religion as an experimental reality, yet it may be pleasing to you to know that your instructions have convinced us that its great principles are the only true inspirations to a noble life; and in taking our leave of you and your most excellent family it is no mere formal utterance when we most earnestly solicit an interest in your daily supplications, that we may be

brought to a hearty realization of its truths and hopes."

When Davidson had closed his expressions of regard, Rudolph remarked:

"Be assured, Doctor Dean, that I most heartily concur in all that my friend has said. I shall never forget your kindness, nor that of your family. I have also greatly profited by your timely and wholesome instructions, while the inspiring example of your whole family has shown that religion is something more than a system of words or a lifeless form. I shall ever carry with me pleasing recollections of the happy and profitable hours spent in your family circle, and earnestly unite in the request of Mr. Davidson that you will include me in your daily supplications, that I may find the true path of life and happiness, and safely keep it to the end."

"It is with no ordinary degree of satisfaction," was Doctor Dean's response to these kind expressions, "that I hear these commendations of my imperfect efforts to aid you in the great duties of life. Our very pleasant association will remain among the sweetest recollections of all my professional life, and my thoughts

and prayers will ever follow you with the warmest wishes for your continued success and a final crown of glory.

"And now, before we finally sever these pleasant bonds, let us once more seek that blessing without which all knowledge is vain and purposes fruitless."

Ella took her seat at the organ, and started that sweet lyric so often sung when Christian friends must say farewell—

"When shall we meet again?"

After the song a fervent appeal to the throne of grace followed, invoking divine guidance for the young friends in all their pursuits, and especially that they might be brought to a hearty and speedy knowledge of the love and mercy of Christ Jesus the Lord.

Then came the ardent grasp of the parting hand, and an earnest "Good-bye" and God bless you! and the special lessons at Willow Brook were brought to a close.

CHAPTER XIX.

THE HAPPY OUTCOME.

WITH a new and nobler inspiration the two young students returned to their college-studies, followed by the best wishes and benedictions of their kind friends at Willow Brook.

During the ensuing winter a deep religious interest pervaded both the college and the village where it was located. The blessed fruits of their summer studies were soon apparent, for among the first in the college to manifest a spirit of earnest religious inquiry were Rudolph and Davidson—an interest which soon culminated in a clear and joyous exercise of faith in the atoning grace of the Lord Jesus Christ. Feeling how much under God they owed to the earnest and timely instruction of Doctor Dean, one of their first and most pleasing acts, after their conversion, was to give to their beloved

friend and instructor, in a joint letter, an account of their happy change, which was couched in the following words:

DEAR AND BELOVED FRIEND:

We feel sure that no one will more heartily rejoice over the happy change which has brought us into sweet sympathy with the people of God than yourself, as no other agency, save the work of the Holy Spirit, has had so direct an influence in producing it. When we parted at Willow Brook we informed you of the change which had already taken place in our thoughts and purposes, but we could not then lay claim to any real personal acceptance of the truths of Christianity. They were accepted as a theory, but not realized as a life; yet the leaven of your earnest and forcible instructions kept working and its influence widening, until finally we could resist the Spirit no longer. We came to know our need, and found rest by a hearty reception of Christ as our Saviour and hope. We were among the first in college to manifest our desire for the instructions and prayers of God's people; and, blessed be the name of the Holy One of Israel! we were soon made to rejoice in the assurance of forgiving love. Rejoice with us, O our friends, for your prayers have been answered, and our souls magnify the Lord. If we are spared to another summer, one of our first visits will be to Willow Brook. It was there that we got the first true insight into the treasures of knowledge; it was there too that we had our first experience of the luxury of doing good; and ever, to us, two of the brightest spots on earth will be

the little library at Willow Brook and the cozy brown cottage of the widow and Alice. It is with tenfold more pleasure now that we shall continue to fulfil our pledges to aid in lifting the burdens from their sorrowing hearts. It is no longer a work of pity, but is now done in the name of a disciple, for Christ's sake.

Oh, how ardently we thank you, and each member of your amiable family, for your kind interest in two strangers, and for the pains and care bestowed to make our lives more useful and happy! Still earnestly soliciting a continued interest in your daily supplications, that we may truly adorn the professions of faith which we have made by lives consecrated to the Master's service, and most fervently praying that the richest blessings of Heaven may be your exceeding great reward,

We are, very affectionately,
Yours in Christ,
CHAS. DAVIDSON,
LEW. RUDOLPH.

It is needless to say that this epistle brought a time of rejoicing to Willow Brook. The earnest workers were reaping the fruit of their labors, and with the ripe sheaves in their hands they could but rejoice as they that "joy in harvest" and resolve to sow for a broader reaping.

Immediately after receiving his commission Doctor Dean had taken measures to secure for

the afflicted Alice all the aid which skill and the most careful nursing could give. In pursuance of his plan she had been removed to an institution in New York where cases kindred to hers were made a specialty. Her improvement had already been such as to give strong hope of a final and permanent restoration to health and strength. The doctor felt assured of this final happy consummation, and so wrote to Davidson when acknowledging his very acceptable letter.

The prompt response to this was, as might have been expected: "Let nothing be wanting that will contribute to a speedy and successful issue."

The reader is now asked to pass over a period of two years or more in the history of the personages who have figured in the preceding pages. During this time, however, some marked changes have taken place which must be noted. The two young men had successfully graduated with honor—Davidson, as Rudolph predicted, at the head of his class, an unusually large and talented one. Rudolph was pursuing his legal studies, but had found

time to lay aside his musty tomes of legal lore and pay a number of pleasant visits to Willow Brook. In so doing it was discovered that the first indications were deceptive; it was not the elder and more sedate Ella that formed the attraction, but the younger and more volatile sister, Minnie. In the first visits in company with his friend he had deferred to his preference for the younger sister; but when that occasion was removed his heart turned to its true proclivities. With the sanction of all concerned, it was anticipated that when ready to settle in the practice of his profession, Miss Minnie Dean would become a partner-in-law, if not a law-partner, of Lewis Rudolph, Attorney and Counsellor-at-Law.

The Farleys had grown happy in the little brown cottage, with the increasing esteem of their neighbors. Alice, with health perfectly restored and in the full flush of a perfect womanhood, was admired and loved by all who knew her. Beautiful in person, rich in mental endowments, and adorning with a spirit of meekness the character of an active Christian worker, she stood second to none in the esteem of the community.

With strength restored and ability to assume the necessary charges of the family, now that they had a home of their own, after due counsel with her mother she had resolved to decline any further assistance from their unknown benefactors, feeling that they had already taxed their noble charities long enough. This determination had been made known to Doctor Dean, coupled with the statement that the purpose was final and inflexible. In due time this information had been communicated to Mr. Davidson, coupled with the earnest request that his agency in the transactions might now be made known to the parties who had so long been profited by his benefactions.

During the intervening years Davidson had several times visited Willow Brook, and had made short calls at the brown cottage. In the mean time the decease of his father had placed him in possession of a large property, so invested that it was very productive. In the care and proper disposal of this large wealth he had found such constant employment that he had hardly thought of social wants or changes. Indeed, whatever of heart-longings he had felt in this direction had found gratification in his care

for the wants of Alice Farley. In no outlays which he had made had he experienced the pleasure which was surely enjoyed when he filled out his cheques for the monthly bills presented in her behalf. The stoppage of this demand was a shock that he had not anticipated, and it led to some searchings of heart and scanning of motives. Why had he experienced such peculiar emotions in these transactions? True, he would have done all that he had done from pure regard to the wants of the poor sufferer; and surely since he had learned to do good for Christ's sake, it had been a sweeter duty; yet it was plain that his heart had been moved by other impulses. He could but recall how the pale face of the afflicted Alice had lingered in his dreams and followed him, phantom-like, in his daily thoughts, and had always been present as a kind of inspiring genius when he made up his favors, causing him to feel, as he did on his first visit to the log cabin on the lake, that he was the more indebted the oftener and more largely he gave. Was there a purer woman or a more Christ-like disciple? And could any choice which he might make cause one greater happiness, or so certainly enhance his own, as for

him to bestow one more gift in addition to the many which had already been sent—the gift of himself to the woman who of all others had filled most of his thoughts? In concluding these meditations his purpose was taken; instead of replying to Doctor Dean's letter, he presented himself at the parsonage to explain in person the purpose which he had formed. His visit was both a delight and a surprise—delight to meet a dear friend, and an agreeable surprise at the main purpose of his coming.

Here he learned that it was the intention of Miss Farley to maintain herself and mother by a return to her profession as a teacher, and that she expected soon to enter upon the duties of a very eligible position which had been secured for her mainly through the influence of her friend Doctor Dean.

With this information Davidson repaired to the brown cottage, where, though so unexpected, he was very cordially received. The neat and cozy appearance of everything in and out of the house was in marked contrast with the wretched surroundings in which he first had met the family. Taste and carefulness were everywhere apparent, and a quiet grace seemed

to pervade the place. The mother was happy, and seemed to have a deep and abiding sense of the kindness of the noble friends who had so liberally cared for them, especially the generous benefactor who had for so long a time furnished the means to restore her precious child to health. The one great want now was, to learn who these dear friends were, that they might convey to them the deep gratitude which their hearts felt and carried as a burden because they had no opportunity for adequate expression. The desire of the daughter to know this secret was not less than the mother's, coupled, perhaps, with a deeper sense of the kindness which had been so long continued, and was now only withheld because her self-respect would not allow its longer manifestation.

After listening, with much embarrassment, to these praises of himself, so unconsciously given, as long as he could well endure the strain, he solicited the pleasure of Alice's company in a stroll to the pleasant grove near the cottage. What was said and done during that interview must be left unwritten, but perhaps an inference can be drawn from what transpired after their return to the cottage. When they entered the

presence of the mother Alice threw herself upon her mother's neck and wept aloud with excess of joy, and it was a long time before she could make any reply to the anxious questions by which her sympathizing parent sought to know the cause of such sudden and deep emotions. When at last under sufficient control to speak, she said,

"Oh, mother! mother! who do you think has been my kind friend through all these long months of suffering and want?"

"I'm sure I don't know, my child," was the reply, "or I should bless him with all my soul, as I know that God has already done, for his great kindness to me and mine."

"Oh, bless him then, dear mother," said the daughter as she seized the hand of Davidson and drew him to her mother's side, "for here he is, and let us both bless him with all our hearts."

The mother looked first at her daughter and then at the young man, who had stood silent by her side, as though in doubt as to what he should do, when the daughter once more exclaimed,

"Yes, yes, mother, bless him, for he it is who

has been my kind and unfailing benefactor; he it was who paid all my bills, and gave me back to you and usefulness; and what shall we do to repay him for all his goodness to us?"

"What shall we do, my child? Why, thank and bless him all the days of our lives, and pray for him as long as we have a tongue to utter a petition to the Giver of all good!—Oh, sir," she said, turning to Davidson, "if a mother's daily blessing can make any return for your generous care for my precious child in her affliction, and her daily earnest supplications bring happiness to your heart here and hereafter, then you will not go wholly unrewarded for your noble deed of charity. Oh, that I had some way to show how deeply and truly grateful I am!"

As the scene was becoming intensely trying to spirit and nerves, the opportunity was seized to release the strain; and so Davidson said,

"I have not done enough to merit such warm commendations, and certainly not enough to bring you under obligations that you can never repay. You can repay me, and leave me in debt to you beyond all calculation or hope of discharge. I have given you and her but a small sum out of a store that was not percepti-

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bly taxed by the amount withdrawn; but I am now about to ask you for a gift which I am sure no money could purchase from your hands. I am presumptuous to ask so much in return for the poor favors which I have bestowed, but I ask—Alice at your hands. I have told her that I love her, and should solicit your sanction to my proposal. Fearing that she might do from gratitude what I only seek from love, I have not pressed her for an answer, and do not wish one until she has time to reflect and counsel with you and her own heart."

While this conversation was going on Alice lay on her mother's bosom with her face concealed, but the trembling frame and flowing tears showed her deep emotion.

After a considerable pause, during which mother and daughter were enfolded in a closer embrace, Mrs. Farley said,

"Mr. Davidson, this matter is so wholly unexpected and sudden, and involves so deeply not only the future happiness of as dear a child as ever blest a parent's heart, but the very existence and life of our household, that you must not be surprised if there is some hesitation in replying to your request. After what has

passed it would not only be ungrateful, but cruel, to interpose any slight objections or delay to a gratification of your wishes, and it would be a rude insult to stop and question your worthiness or motives; and so, if you desire a more intimate relation with a family which has nothing to give but an untarnished name and the assurance of the inestimable value of the one whom we must surrender to cement the bond of union, you are at liberty to enter into any engagements with my daughter which may be mutually agreeable."

"Thanks, dear madam—most hearty thanks," was the ardent response of the young man, "for your kind approval of my suit for your daughter's favor; and I hope that I may be as successful in the response which Alice may decide to make to my proposal."

The pause which followed this remark Alice understood as it was intended, as an appeal to her for some expression of her feelings. From her increased agitation it was evident that a powerful struggle was going on, and so no interruption was offered to the full flow of her emotions. Two or three attempts were made by her to leave her resting-place on the mater-

nal breast, but they were failures, so she finally put forth one of her hands and placed it in that of her suitor, and then, with her face close hidden to conceal her excess of joy, she allowed him to press it to his lips and put his own construction on the act. The sequel need not be detailed.

Another year has passed, and the elegant family mansion inherited by Davidson has a new mistress, while near by the widow Farley inhabits a neat modern cottage, where she is passing the evening of life with a beauty which, like a summer sunsetting, grows brighter and brighter as it nears the final decline. The little brown cottage at Willow Brook has been deeded to trustees, with directions to give it rent free to such needy widows as from time to time may be deemed worthy of such a favor.

Rudolph has taken his partner-in-law in the person of Minnie Dean, and thus the two students have found something worth living for, and have indefinitely postponed their intention to cultivate the rough companionship of the denizens of the Rocky Mountains.

Earnest and active in all the duties of a true

Christian life, blest and happy in their social surroundings, and with ample and increasing means to continue the blessed work of benevolence so auspiciously begun on the shores of the dismal lake, they gratefully regard their lot as having fallen unto them in pleasant places, and that they have a goodly heritage.

As may well be surmised, there is an oft-repeated gathering of old-time friends at the parsonage at Willow Brook, and an interchange of social visits one with another, when the past is often a theme of pleasant conversation. In these seasons Davidson always insists that, although he may not have reached a very high round on his upward course, nor have obtained very distinct views of the glorious things which may there be revealed, of one thing he is certain: he met a descending angel who has consented to tarry for a while to brighten his pathway and give him safer guidance as he strives to reach the heavenly terminus of the "Beautiful Ladder."

THE END.

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